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federal register

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FRIDAY, FEBRUARY 9, 1979

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Monday	Tuesday	Wednesday	Thursday	Friday
DOT/COAST GUARD	USDA/ASCS		DOT/COAST GUARD	USDA/ASCS
DOT/NHTSA	USDA/APHIS		DOT/NHTSA	USDA/APHIS
DOT/FAA	USDA/FNS		DOT/FAA	USDA/FNS
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DOT/OPSO	USDA/REA		DOT/OPSO	USDA/REA
CSA	MSPB*/OPM*		CSA	MSPB*/OPM*
	LABOR			LABOR
	HEW/FDA			HEW/FDA

Documents normally scheduled for publication on a day that will be a Federal holiday will be published the next work day following the holiday.

Comments on this program are still invited. Comments should be submitted to the Day-of-the-Week Program Coordinator, Office of the Federal Register, National Archives and Records Service, General Services Administration, Washington, D.C. 20408.

***NOTE: As of January 1, 1979, the Merit Systems Protection Board (MSPB) and the Office of Personnel Management (OPM) will publish on the Tuesday/Friday schedule. (MSPB and OPM are successor agencies to the Civil Service Commission.)**

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rules and regulations

This section of the FEDERAL REGISTER contains regulatory documents having general applicability and legal effect most of which are keyed to and codified in the Code of Federal Regulations, which is published under 50 titles pursuant to 44 U.S.C. 1510.

The Code of Federal Regulations is sold by the Superintendent of Documents. Prices of new books are listed in the first FEDERAL REGISTER issue of each month.

[6325-01-M]

Title 5—Administrative Personnel

CHAPTER I—OFFICE OF PERSONNEL MANAGEMENT

PART 213—EXCEPTED SERVICE

Department of Health, Education and Welfare; Department of Energy

AGENCY: Office of Personnel Management.

ACTION: Final rule.

SUMMARY: This amendment (1) changes the title of a position at the Department of Health, Education and Welfare from Assistant Commissioner for Private Education Services to Deputy Commissioner for Non-Public Education to more accurately reflect the duties of the position and (2) reestablishes a position at the Department of Energy because it is confidential in nature. Appointments may be made to these positions without examination by the Office of Personnel Management.

EFFECTIVE DATE: January 17, 1979.

FOR FURTHER INFORMATION CONTACT:

William Bohling, 202-632-4533.

Accordingly, 5 CFR 213.3316(c)(22) is amended and 213.3331(t)(3) is added as set out below:

§ 213.3316 Department of Health, Education and Welfare.

* * * * *

(c) *Office of Education.* * * *

(22) Deputy Commissioner for Non-Public Education.

* * * * *

§ 213.3331 Department of Energy.

* * * * *

(t) *Southwestern Power Administration.* * * *

(3) One Confidential Assistant to the Administrator.

(5 U.S.C. 3301, 3302; EO 10577, 3 CFR 1954-1958 Comp., p. 218)

Office of Personnel Managment.
James C. Spry,
Special Assistant to the Director.

[FR Doc. 79-4460 Filed 2-8-79; 8:45 am]

[6325-01-M]

PART 213—EXCEPTED SERVICE

Equal Employment Opportunity Commission

AGENCY: Office of Personnel Management.

ACTION: Final rule.

SUMMARY: This amendment (1) changes the title of a position from Special Assistant to a Member to Attorney Advisor (Civil Rights) to a Member to more appropriately reflect the duties of the position, (2) excepts under Schedule C a position because it is confidential in nature and (3) revokes a position of Special Assistant because the need for the position no longer exists. Appointments may be made to these positions without examination by the Office of Personnel Management.

EFFECTIVE DATE: January 12, 1979.

FOR FURTHER INFORMATION CONTACT:

William Bohling, 202-632-4533.

Accordingly, 5 CFR 213.3377 (b) is amended as set out below:

§ 213.3377 Equal Employment Opportunity Commission.

* * * * *

(b) Two Special Assistants and one Secretary to each of three Members of the Commission and two Attorney-Advisors (Civil Rights) and one Secretary to the remaining Member of the Commission.

(5 U.S.C. 3301, 3302; EO 10577, 3 CFR 1954-1958 Comp., p. 218)

Office of Personnel Managment.
James C. Spry,
Special Assistant to the Director.

[FR Doc. 79-4461 Filed 2-8-79; 8:45 am]

[6325-01-M]

PART 213—EXCEPTED SERVICE

Department of the Interior, National Foundation on the Arts and the Humanities

AGENCY: Office of Personnel Management.

ACTION: Final rule.

SUMMARY: This amendment (1) changes the title of a position at the Department of the Interior from Special Assistant to the Assistant Secretary—Indian Affairs to Executive Assistant to the Assistant Secretary—Indian Affairs to more appropriately reflect the duties of the position and (2) changes the title of a position at the National Foundation on the Arts and the Humanities from Secretary (Typing) to the Director, Office of Program Development and Coordination, National Endowment on the Arts, to Staff Assistant to the Director, Office of Program Development and Coordination, National Endowment on the Arts to more appropriately reflect the duties of the position.

EFFECTIVE DATES: Department of the Interior—January 18, 1979; National Foundation on the Arts and the Humanities—January 22, 1979.

FOR FURTHER INFORMATION CONTACT:

William Bohling, 202-632-4533.

Accordingly, 5 CFR 213.3312(a)(28) and 213.3382(t) are amended as set out below:

§ 213.3312 Department of the Interior.

(a) *Office of the Secretary.* * * *

(28) Two Special Assistants and one Executive Assistant to the Assistant Secretary—Indian Affairs.

* * * * *

§ 213.3382 National Foundation on the Arts and the Humanities.

* * * * *

(t) One Staff Assistant to the Director, Office of Program Development and Coordination, National Endowment for the Arts.

(5 U.S.C. 3301, 3302; EO 10577, 3 CFR 1954-1958 Comp., p. 218)

OFFICE OF PERSONNEL MANAGEMENT.
JAMES C. SPRY,
Special Assistant to the Director.

[FR Doc. 79-4459 Filed 2-8-79; 8:45 am]

[3410-30-M]

Title 7—Agriculture

CHAPTER II—FOOD AND NUTRITION SERVICE, DEPARTMENT OF AGRICULTURE

PART 271—PARTICIPATION OF STATE AGENCIES AND ELIGIBLE HOUSEHOLDS

PART 282—DEMONSTRATION, RESEARCH, AND EVALUATION PROJECTS

Authority Citations; Corrections

AGENCY: Food and Nutrition Service, USDA.

ACTION: Notification of authority citations.

SUMMARY: The Food and Nutrition Service issued three final amendments to the Food Stamp Program Regulations—one at 43 FR 39077, September 1, 1978, related to California's SSI conversion project, and two at 43 FR 43273, September 22, 1978, related to certain definitions. This document adds the authority citation under which those amendments were issued.

EFFECTIVE DATE: September 1 and 22, 1978.

FOR FURTHER INFORMATION CONTACT:

Mrs. Nancy Snyder, Deputy Administrator, Family Nutrition Programs, Food and Nutrition Service, USDA, Washington, D.C. 20250, 202-447-8982

SUPPLEMENTARY INFORMATION: 91 Stat. 958 (7 U.S.C. 2011-2027) is the proper authority citation for the following rule documents published at: 43 FR 39077, dated September 1, 1978—added § 282.11; 43 FR 43273, dated September 22, 1978—deleted and reserved 270.2 (f), (g), (i), (m), (n), (q), (s), (x), (cc), (kk), (ll), (mm), (rr), (ss) and (zz); and 43 FR 43273, dated September 22, 1978—redesignated § 271.2 as § 271.11 and added new § 271.2.

Dated: February 5, 1979.

CAROL TUCKER FOREMAN,
Assistant Secretary.

[FR Doc. 79-4479 Filed 2-8-79; 8:45 am]

[3410-02-M]

CHAPTER IX—AGRICULTURAL MARKETING SERVICE (MARKETING AGREEMENTS AND ORDERS; FRUITS, VEGETABLES, NUTS), DEPARTMENT OF AGRICULTURE

[Lemon Reg. 185]

PART 910—LEMONS GROWN IN CALIFORNIA AND ARIZONA

Limitation of Handling

AGENCY: Agricultural Marketing Service, USDA.

ACTION: Final rule.

SUMMARY: This regulation establishes the quantity of fresh California-Arizona lemons that may be shipped to market during the period February 11-17, 1979. Such action is needed to provide for orderly marketing of fresh lemons for this period due to the marketing situation confronting the lemon industry.

EFFECTIVE DATE: February 11, 1979.

FOR FURTHER INFORMATION CONTACT:

Charles R. Brader, (202) 447-6393.

SUPPLEMENTARY INFORMATION: *Findings.* Pursuant to the marketing agreement, as amended, and Order No. 910, as amended (7 CFR Part 910), regulating the handling of lemons grown in California and Arizona, effective under the Agricultural Marketing Agreement Act of 1937, as amended (7 U.S.C. 601-674), and upon the basis of the recommendations and information submitted by the Lemon Administrative Committee, and upon other information, it is found that the limitation of handling of lemons, as hereafter provided, will tend to effectuate the declared policy of the act. This regulation has not been determined significant under the USDA criteria for implementing Executive Order 12044.

The committee met on February 6, 1979, to consider supply and market conditions and other factors affecting the need for regulation and recommended a quantity of lemons deemed advisable to be handled during the specified week. The committee reports the demand for lemons is stable.

It is further found that it is impracticable and contrary to the public interest to give preliminary notice, engage in public rulemaking, and postpone the effective date until 30 days after publication in the FEDERAL REGISTER (5 U.S.C. 553), because of insufficient time between the date when information became available upon which this regulation is based and the effective date necessary to effectuate the declared policy of the act. Interested persons were given an opportunity to submit information and views on the regulation at an open meeting. It is necessary to effectuate the declared purposes of the act to make these regulatory provisions effective as specified, and handlers have been apprised of such provisions and the effective time.

§ 910.485 Lemon Regulation 185.

Order. (a) The quantity of lemons grown in California and Arizona which may be handled during the period February 11, 1979, through February 17, 1979, is established at 205,000 cartons.

(b) As used in this section, "handled" and "carton(s)" mean the same as defined in the marketing order.

(Secs. 1-19, 48 Stat. 31, as amended (7 U.S.C. 601-674).)

Dated: February 8, 1979.

CHARLES R. BRADER,
Acting Director, Fruit and Vegetable Division, Agricultural Marketing Service.

[FR Doc. 4691 Filed 2-8-79; 1:17pm]

[4410-10-M]

Title 8—Aliens and Nationality

CHAPTER I—IMMIGRATION AND NATURALIZATION SERVICE, DEPARTMENT OF JUSTICE

PART 341—CERTIFICATES OF CITIZENSHIP

Revised Procedures Following Denial of Certificate of Citizenship

AGENCY: Immigration and Naturalization Service, Justice.

ACTION: Final Rule.

SUMMARY: This final rule amends the regulations of the Immigration and Naturalization Service pertaining to applications for Certificates of Citizenship. The regulation is being amended to require the filing of a motion to reopen the proceedings where the applicant has previously filed an application for such certificate which was denied, and the appeal time has run. The basis for this amendment is Service experience which shows that applications for certificates of citizenship are filed by aliens illegally in the United States based on spurious claims to United States citizenship. These applications are filed after previously filed applications for certificates of citizenship have been denied. This is done for the purpose of forestalling and delaying expulsion proceedings. This regulations is intended to stop that practice.

EFFECTIVE DATE: March 12, 1979.

FOR FURTHER INFORMATION CONTACT:

James G. Hoofnagle, Jr., Instructions Officer, Immigration and Naturalization Service. Telephone: (202) 633-3048.

SUPPLEMENTARY INFORMATION: On June 22, 1978, at 43 FR 26754, the Service published a notice of proposed rulemaking in which it was proposed to amend 8 CFR 341.6 to provide that after a certificate of citizenship had been denied and the appeal time had run, a second such application submitted by the same individual would be rejected by the Service and the applicant would be instructed to submit a motion to reopen the proceedings.

The Service received four representations in response to this notice of proposed rulemaking. Of the four representations, two were completely in favor of the proposd rule as written. Two others expressed certain reservations concerning the proposal which will be discussed below.

One representation recommended that the applicant be furnished findings of fact, conclusions of law and reasons for the denial because without a statement of the facts upon which the denial is based, it would be difficult for counsel to intelligently pursue the matter. This respondent also recommended that an adversary proceeding be employed in determining eligibility for certificates of citizenship. Existing Service regulations require that applicants be furnished the reasons for denial of their applications by Service district directors. In addition, the very first sentence of the regulation being adopted provides that the district director shall furnish the reasons for the denial and advise the applicant of his right to appeal in accordance with 8 CFR 103.3(a). Thus there is a specific requirement in 8 CFR 341.6 that Service district directors provide the applicant with the reasons for denial of the application. Thus, the recommendation that the applicant be provided reasons for denial of the application has been adequately considered and properly provided for in the regulation. With regard to the recommendation that an adversary hearing be provided in certificate of citizenship cases, present procedures already provide ample opportunity for an adversary hearing. The applicant submits documentation in support of the claim. The Service obtains any required verifications from its records. Every applicant is accorded a hearing on the application. The applicant may be represented by counsel. Evidence can be introduced by the applicant and the applicant may rebut other evidence introduced by the government. Should the district director ultimately deny the application, an appeal to the regional commissioner is available. Judicial review under section 360 of the Act is available following the exhaustion of administrative remedies.

The other representation which was submitted recommended: that the proposed rule be amended to provide that the district director's decision contain advice to the alien respecting waiver of the fee; that 8 CFR 103.2(b)(2) relating to the opportunity of an alien to inspect the record and rebut any derogatory information considered by the district director should be made applicable to 8 CFR 341.6; that if the application is rejected under amended 8 CFR 341.6, any fee submitted in accordance therewith should be returned to the applicant; and that the district director be given the discretion to accept and adjudicate or to reject the subsequently-filed application for a certificate of citizenship to enable the district director to adjudicate the second application if the first one had been rejected for lack of proper documents or some similar defect of that nature. With respect to including notification of the fee-waiver provision in the district director's decision, Service regulations concerning waiver of fees are published at 8 CFR 103.7(c)(1)-(3). These provisions apply to all fees described in 8 CFR 103.7(b), including N-600 applications. There is nothing in the regulation which would preclude an applicant in a certificate of citizenship case from applying for a waiver of the fee under the appropriate circumstances. The provision of 8 CFR 103.2(b)(2) respecting opportunity to inspect the evidence to be made aware of and given an opportunity to rebut derogatory information is applicable in certificate of citizenship cases as it is in all Service proceedings. Restating it in 8 CFR 341.6 would serve no useful purpose. The Service has decided to adopt the suggestion that the fee for a rejected application should be returned to the applicant, in part. While the fee will not be refunded the Service will apply the amount of that fee toward the fee for the filing of a motion for reopening the proceedings provided the rejected application is submitted accompanied by the difference in the amount of the fee specified in the regulations for filing a motion to reopen. The final rule will be amended to reflect this provision.

With regard to the recommendation that the district director be given discretion to accept and adjudicate, or reject a second application in order to enable the second application to be accepted where the first one was rejected for lack of proper documents or the like, the Service wishes to emphasize that this regulation is only applicable to second applications filed after the *acceptance, formal adjudication and denial* of a previously filed application, after the appeal time has run. The regulation does not apply to a second application filed following *rejection* of the first application where no adjudication was made.

In the light of the foregoing, the proposed regulation will be adopted but with the second sentence modified to provide that the fee submitted in connection with the second application which is being rejected may be used to offset the fee required to file a motion for reopening or reconsideration so long as the motion is accompanied by the rejected application and the difference required to total the fee required for a motion for reopening or reconsideration specified in the regulations.

Chapter I of Title 8 of the Code of Federal Regulations is hereby amended as set forth below.

PART 341—CERTIFICATES OF CITIZENSHIP

In part 341, § 341.6 is hereby revised to read as follows:

§ 341.6 Denial of application.

If it is the decision of the district director to deny the application for a Certificate of Citizenship, the applicant shall be furnished the reasons for denial and advised of his right to appeal in accordance with the provisions of 8 CFR 103.3(a). After an application for a Certificate of Citizenship has been denied, and the appeal time has run, should a second application be submitted by the same individual, the second application shall be rejected and the applicant shall be instructed to submit a motion for reopening or reconsideration in accordance with 8 CFR 103.5 which shall be accompanied by the rejected application and by the fee specified in 8 CFR 103.7 reduced by the amount of the fee paid with the rejected application.

* * * * *

(Sec. 103; 8 U.S.C. 1103; Interpret or apply Sec. 341, 8 U.S.C. 1452.)

Effective date: The amendment in this order becomes effective on March 12, 1979.

Dated: Feburary 5, 1979.

LEONEL J. CASTILLO,
Commissioner of Immigration and Naturalization.

[FR Doc. 79-4488 Filed 2-8-79; 8:45 am]

[7590-01-M]

Title 10—Energy

CHAPTER I—NUCLEAR REGULATORY COMMISSION

PART 10—HUMAN USES OF BYPRODUCT MATERIALS

Regulation of the Medical Uses of Radioisotopes; Statement of General Policy

AGENCY: Nuclear Regulatory Commission.

ACTION: Final Policy Statement.

SUMMARY: The Nuclear Regulatory Commission (NRC) has the following policy statement regarding NRC's future role in regulating the medical uses of radioisotopes. This NRC policy statement is intended to inform NRC licensees, other Federal and State agencies and the public of the Commission's general intention regarding the regulation of the medical uses of radioisotopes. It is expected that future NRC activities in the medical area, such as promulgation of new regulations and development of cooperative relationships with other Federal agencies, will follow this statement of NRC policy.

EFFECTIVE DATE: February 9, 1979.

FOR FURTHER INFORMATION CONTACT:

Mr. Edward Podolak, Office of Standards Development, U.S. Nuclear Regulatory Commission, Washington, D.C. 20555 (Phone: 301-443-5860).

SUPPLEMENTAL INFORMATION: The NRC has developed the following three part policy statement regarding NRC's future role in regulating the medical uses of radioisotopes. On March 17, 1978, the three part policy statement was published in the FEDERAL REGISTER (43 FR 11208) for public comment. Copies of the policy statement were sent to all NRC medical licensees, the States and 25 professional societies, Federal agencies, and individuals. The comment period expired May 16, 1978. Twenty-two comments were received. Nine commenters favored all three parts of the policy statement, four commenters opposed one part of the policy statement and nine commenters addressed specific issues discussed in the March 17, 1978 FEDERAL REGISTER notice. The comments are discussed in Section II. Copies of the comments may be examined in the NRC Public Document Room at 1717 H Street, N.W., Washington, D.C.

I. STATEMENT OF GENERAL POLICY

This NRC policy statement is intended to inform NRC licensees, other Federal and State agencies and the public of the Commission's general intention regarding the regulation of the medical uses of radioisotopes.

It is expected that future NRC activities in the medical area, such as promulgation of new regulations and development of cooperative relationships with other Federal agencies, will follow this statement of NRC policy.

Based on past experience and the comments and advice of the public, other Federal agencies, the States, and NRC's Advisory Committee on the Medical Uses of Isotopes, the Commission has developed the following statement of general policy to guide its regulation of the medical uses of radioisotopes:[1]

1. The NRC will continue to regulate the medical uses of radioisotopes as necessary to provide for the radiation safety of workers and the general public.
2. The NRC will regulate the radiation safety of patients where justified by the risk to patients and where voluntary standards, or compliance with these standards, are inadequate.
3. The NRC will minimize intrusion into medical judgments affecting patients and into other areas traditionally considered to be a part of the practice of medicine.

II. RATIONALE

The NRC and its predecessor the Atomic Energy Commission have regulated the medical uses of radioisotopes since 1946. AEC recognized that physicians have the primary responsibility for the protection of their patients and designed its regulations accordingly. The physicians were required to be licensed by the State, and their applicable training and experience were evaluated in consultation with the Advisory Committee on the Medical Uses of Isotopes. This regulation has been generally oriented toward assisting qualified physicians in discharging their responsibilities to patients. However, regulation by AEC/NRC has at one time or another encompassed nearly every aspect of the delivery of radioisotope medical services to patients. The broadest regulation occurred between 1962 and 1975, when the Food and Drug Administration (FDA) exempted from its requirements for new drugs all radiopharmaceuticals regulated by AEC. During this period AEC regulated the radiation safety of workers and the general public *and* the safety and efficacy of radioactive drugs and devices with respect to patients. AEC regulation included production of the radioisotope, manufacture of the final radioactive drug product or device, distribution, use and disposal of the products. In 1975, the FDA terminated the exemption for radiopharmaceuticals, stating that it would now regulate the safety and efficacy of radioactive drugs with respect to patients. (As noted later in this statement, FDA does not regulate the physician's routine use of radiopharmaceuticals.) At the same time, NRC withdrew from regulating radioactive drug safety and efficacy, stating that it would regulate the radiation safety of the workers and the public. The 1976 Medical Device Amendments to the Food, Drug and Cosmetic Act extended FDA's authority over medical devices (including devices containing radioactive materials) in a way similar to its authority over drugs.

NRC's authority to regulate domestically the medical uses of byproduct material is found in the Atomic Energy Act of 1954, as amended. For example, section 81 of that Act authorizes NRC "to issue general or specific licenses to applicants seeking to use byproduct material for * * * medical therapy * * *." Section 81 directs NRC to regulate the manufacture, production, transfer, receipt in interstate commerce, acquisition, ownership, possession, import and export of byproduct material. Finally, Section 81 also directs that:

> The Commission shall not permit the distribution of any byproduct material to any licensee, and shall recall or order the recall of any distributed material from any licensee, who is not equipped to observe or fails to observe such safety standards to protect health as may be established by the Commission or who uses such material in violation of law or regulation of the Commission or in a manner other than as disclosed in the application therefor or approved by the Commission.

Commission regulations, for the most part set forth in 10 CFR Parts 30 through 35, were promulgated to carry out the broad regulatory scheme envisaged by section 81. For example, Part 35 establishes regulations specific to human uses of byproduct material. FDA's statutory authority (Federal Food, Drug and Cosmetic Act, as amended, 21 U.S.C. 301 *et seq.*) does not diminish NRC's authority. Where NRC's and FDA's authorities overlap, the respective authorities can be harmonized by interagency agreement.

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[1] NRC licenses radioisotopes in three categories: byproduct, source and special nuclear material. The NRC does not regulate naturally occurring or accelerator produced radioisotopes. The term *byproduct material* means any radioactive material (except special nuclear material) yielded in or made radioactive by exposure to the radiation incident to the process of producing or utilizing special nuclear material. The term *source material* means (1) uranium, thorium or any combination thereof, in any physical or chemical form or (2) ores which contain by weight one-twentieth of one percent (0.05%) or more of (i) uranium, (ii) thorium or (iii) any combination thereof. Source material does not include special nuclear material. *Special nuclear material* means (1) plutonium, uranium 233, uranium enriched in the isotope 233 or in the isotope 235 or (2) any material artificially enriched by any of the foregoing, but does not include source material.

The central question is a question of *policy* not *authority*, namely:

To what extent should the protection of the patient be considered in NRC's regulation of the medical use of byproduct material?

From the standpoint of *authority*, it is clear that NRC can regulate the medical uses of byproduct material to protect the health and safety of users of this material, for instance, patients. In licensing the possession and use of byproduct material, NRC establishes limits within which physicians exercise professional discretion. From the standpoint of *policy*, these limits depend upon how NRC views the potential hazard to the patient's health and safety in the uses of the byproduct material. The greater the potential hazard to a patient from the byproduct material or its use by a physician, the more NRC may elect to circumscribe areas that might otherwise be regarded as within the discretion of the physician.

The first part of NRC's policy statement indicates that NRC will continue to regulate the medical uses of radioisotopes as necessary to provide for the radiation safety of workers and the general public.[2] This is the traditional regulatory function of NRC for all uses of byproduct, source and special nuclear material. It is a regulatory role that was not questioned by any of the commenters but, rather, it was consistently recognized as a necessary role in the medical uses of radioisotopes.

NRC's regulation of the radiation safety of workers and the general public in the medical uses of radioisotopes is relinquished by NRC to Agreement States; does not overlap with FDA's activities; is in harmony with regulation by the Department of Transportation, Social Security Administration and the Joint Commission on Accreditation of Hospitals; and dovetails with Occupational Safety and Health Administration regulation of the work-place for the use of naturally-occurring and accelerator-produced radioactive materials.

The second part of NRC's policy statement indicates that NRC will regulate the radiation safety of patients where justified by the risk to patients and where voluntary standards, or compliance with these standards, are inadequate. As noted before, NRC has the authority to regulate the radiation safety of patients.

The NAS-BEIR[3] report discusses limiting the exposure of the population to medical applications of ionizing radiation. That report, which includes all medical uses of ionizing radiation, shows an average dose rate from radiopharmaceuticals of 1 mrem/year and an average dose rate from diagnostic radiology of 72 mrem/year in 1970.

The following quotation is from the NAS-BEIR report:

> In the foreseeable future, the major contributors to radiation exposure of the population will continue to be natural background with an average whole body dose of about 100 mrem/year, and medical applications which now contribute comparable exposures to various tissues of the body. Medical exposures are not under control or guidance by regulation or law at present. The use of ionizing radiation in medicine is of tremendous value but it is essential to reduce exposures since this can be accomplished without loss of benefit and at relatively low cost. The aim is not only to reduce the radiation exposure to the individual but also to have procedures carried out with maximum efficiency so that there can be a continuing increase in medical benefits accompanied by a minimum radiation exposure.

NRC will act to help ensure that radiation exposure to patients is as low as is reasonably achievable, consistent with competent medical care and with minimal intrusion into medical judgments. NRC will not exercise regulatory control in those areas where, upon careful examination, it determines that there are adequate regulations by other Federal or State agencies or well administered professional standards. Wherever possible, NRC will work closely with Federal and State agencies and professional groups in designing new voluntary guidance for practitioners to limit unnecessary patient radiation exposure.

The third part of NRC's policy statement indicates that NRC will minimize its intrusion into medical judgments affecting the patient and into other areas traditionally considered to be a part of the practice of medicine. The Commission recognizes that physicians have the primary responsibility for the protection of their patients. The Commission believes that basic decisions concerning the diagnosis and treatment of disease are a part of the physician-patient relationship and are traditionally considered to be a part of the practice of medicine. NRC regulations are predicated on the assumption that properly trained and adequately informed physicians will make decisions in the best interest of their patients.

The regulations try to find a balance between adequate controls and avoidance of undue interference in medical judgments. A consequence of too much regulation could be poorer health care delivery to patients. A consequence of leaving to physicians the majority of the decisions concerning their patients is that the physicians will make mistakes. The tightest regulation of physicians' decisions by Federal, State and professional groups will not be able to prevent future incidents in the medical uses of radioisotopes.

The Commission recognizes that FDA regulates the manufacture and interstate distribution of drugs, including those that are radioactive. FDA also regulates the investigational and research uses of drugs as well as the specific guidance on doses and procedures found in the product labeling. However, FDA does not have the authority to restrict the routine use of drugs to procedures (described in the product labeling) FDA has approved as safe and effective. Indeed, NRC is the only Federal Agency that is currently authorized to regulate the routine use of radioactive drugs from the standpoint of reducing unnecessary radiation exposure to patients.

The Commission believes that the diagnostic use of radioactive drugs is, in most cases, clearly an area of low radiation risk to patients. Therefore, NRC will not control physician's prerogatives on patient selection, instrument selection, procedure selection, drug selection and dose level for most diagnostic uses of radioisotopes. For all therapeutic uses of radioactive drugs, and in certain diagnostic uses—for example, the use of phosphorus-32 for localization of eye tumors—the risk to patients is not low. The risk of tissue or organ damage (or even death) is inherent in the use of therapeutic levels of radioactive drugs. NRC will continue to restrict the uses of therapeutic and certain diagnostic radioactive drugs to the indicated procedures that have been approved by FDA. The NRC will not control the physicians' prerogatives on patient selection and instrument selection for therapy procedures, because these procedures are so specialized and patient specific.

Congress recently gave FDA authority to regulate medical devices, similar to FDA's authority to regulate drugs, but with additional authority to restrict the routine use of medical devices as may be necessary to provide reasonable assurance of their safety and effectiveness. FDA has not yet had sufficient time to implement its full authority to regulate medical devices containing byproduct, source or special nuclear material. Therefore, NRC will continue to restrict physician's uses of these medical devices, both for diagnosis and therapy, to those procedures that NRC has determined (in consultation with its Advisory Committee on the Medical Uses of Isotopes) to be safe and effective.

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[2] The term general public in this statement specifically excludes patients.

[3] National Academy of Sciences Advisory Committee on the Biological Effects of Ionizing Radiations (NAS-BEIR) report. *The Effects on Populations of Exposure to Low Levels of Ionizing Radiation. National Academy of Sciences—National Research Council*, Washington, D.C. (1972).

The Commission does not consider equipment calibration, qualifications of paramedical personnel or reporting to NRC misadministrations of radioactive material to be exclusively the practice of medicine or a part of physician-patient relationships. The Commission intends to regulate these areas of patient radiation safety where justified by the risk to patients and where voluntary standards, or compliance with these standards, are inadequate.

III. DISCUSSION OF PUBLIC COMMENTS

A. COMMENTS ON THE POLICY STATEMENT

One commenter opposed the use of the general term "radioisotopes" in the first part of the policy statement. This commenter was concerned that, if taken out of the context of the footnote, it could be interpreted to include naturally occurring and accelerator produced radioisotopes.

The Commission believes that the general term "radioisotopes" is plain English and easily recognized by the public. It was properly footnoted in the policy statement to include the more cumbersome but specific terms: byproduct, source and special nuclear material and to exclude naturally occurring and accelerator produced radioactive material.

One commenter, in opposition to NRC's regulation of patient radiation safety, suggested that NRC limit its role to the radiation safety of the hospital staff and the general patient population. He believes that patient dosimetry is a responsibility of the individual institution and not NRC. This commenter feels that NRC should first require adequate staffing, including a board certified physician or radiopharmacist and a radiation safety officer, and then essentially leave the institution alone regarding dosimetry, instrumentation, calibration, drug procurement or any other function considered to be the practice of medicine.

NRC does require the licensee to staff its operation with a radiation safety officer and a physician (not necessarily board certified) trained to administer radioactive material or radiation to patients. However, the Commission cannot limit its regulatory role to protecting the hospital staff and the general patient population and at the same time fulfill its congressional mandate to protect the health and safety of the public as regards source, byproduct and special nuclear material. The patient being treated or diagnosed with radioactive material, as well as the general public who may be exposed to radiation as a result of that treatment, are all members of the public to be protected by NRC.

Two commenters objected to NRC's regulation of patient radiation safety because they believe that NRC does not have the authority to regulate patient safety. They note that NRC's enabling legislation does not specifically mention the radiation safety of patients. They believe that patient safety is the responsibility of the physician, a responsibility that cannot be shared. They believe that the Commission is in error to equate patients with the public and to consider patients as users rather than recipients of radioactive material.

As noted in the analysis of the similar comment above, the NRC's overriding congressional mandate is to protect the health and safety of the public. The patient is a member of the public, notwithstanding the Commission's recognition of physicians' primary responsibility for protection of their patients. The policy statement and, indeed, all of the Commission's actions in regulating the medical uses of radioisotopes, acknowledge the secondary but necessary role of NRC in regulating the radiation safety of patients. The Commission also considers patients to be both users and recipients of radioactive material. However, the distinction between receipt and use of radioactive materials is not meaningful in this case because NRC regulates, among other things, receipt, possession, use and transfer of byproduct, source and special nuclear material in protecting the health and safety of the public.

B. COMMENTS ON SPECIFIC ISSUES

There were six comments on the question of reporting misadministrations of radioactive material. Three commenters opposed any misadministration reporting and three commenters offered suggestions on how they should be reported. All of the comments will be considered in dealing with NRC's newly proposed misadministration reporting requirement that was published in the FEDERAL REGISTER for public comment on July 7, 1978 (43 FR 29297).

There were six comments on the specific issue of paramedical training. Three commenters believe that it is unnecessary for NRC to become involved in paramedical training because several organizations are already providing or developing minimum standards, guidelines or certification. One commenter believed that NRC should be involved in this area because the technologist, not the physician, does most of the work with radioisotopes. Two commenters believe that radiological physicists should be separated out from other paramedical personnel and one of these commenters offered a definition of radiological physicist.

As noted in the proposed policy statement, NRC is studying the various allied health certification programs currently in effect or being drafted by other Federal, State and professional groups. If the coverage provided by these programs is not adequate to protect the patient from unnecessary radiation exposure, NRC will work with these groups to develop a new NRC proposed rule for the training of allied health personnel.

There were five comments on the specific subject of nuclear pharmacies (radiopharmacies).

One commenter urged NRC to distinguish between radiopharmacists working in a hospital setting and those working in a retail environment (commercial nuclear pharmacy). This commenter also noted the complexity of the problem of definition when the hospital based radiopharmacy provides radiopharmaceuticals to other hospitals and practitioners in its area.

As noted in the proposed policy statement, the NRC will defer to the Food and Drug Administration (FDA) regarding a determination of those activities of nuclear pharmacies that will be considered manufacture and those activities that will be considered the ordinary practice of pharmacy (compounding and dispensing).

Four commenters objected to NRC's licensing nuclear pharmacies to distribute only those products that they have prepared from FDA-approved radiopharmaceuticals or reagent kits. One commenter cited the practice of nuclear pharmacies supplying radiochemicals to researchers who use them on humans under their own FDA "Notice of Claimed Investigational Exemption for a New Drug" (IND). One commenter noted that FDA permits nuclear pharmacies to operate in the absence of a final determination of their status, providing they meet all State and local pharmaceutical regulations. The two other commenters characterized the NRC's restrictions on the distribution of radiopharmaceuticals by nuclear pharmacies as an unwarranted intrusion into the practice of pharmacy which is regulated by the States.

NRC licenses nuclear pharmacies to distribute radioactive drugs that have been approved by FDA. This includes radioactive drugs subject to an FDA-approved "New Drug Application" (NDA), or "Notice of Claimed Investigational Exemption for a New Drug" (IND). NRC relies on FDA approval of radioactive drugs because NRC has not regulated the safety and effectiveness of radioactive drugs since 1975. Also, there are not many States that are equipped to regulate radioactive drug safety and effectiveness.

Dated at Washington, D.C. this 1st day of February 1979.

For the Nuclear Regulatory Commission.

SAMUEL J. CHILK,
Secretary of the Commission.

[FR Doc. 79-4148 Filed 2-8-79; 8:45 am]

[8010-01-M]

Title 17—Commodity and Securities Exchanges

CHAPTER II—SECURITIES AND EXCHANGE COMMISSION

[Release Nos. 33-6020, IC-10571]

PART 239—FORMS PRESCRIBED UNDER THE SECURITIES ACT OF 1933

Short Form for the Registration of Securities

AGENCY: Securities and Exchange Commission.

ACTION: Final rules.

SUMMARY: The Commission is adopting amendments to the short form S-16 in order to further expand its use for primary offerings by subsidiaries of certain issuers. The amendments will enable certain subsidiary issuers who otherwise satisfy the general requirements of the form to use the form for primary offerings of securities if they have outstanding securities held by non-affiliates with an aggregate principal amount or market value of at least $250 million, the offer or sale of which has been registered pursuant to the Securities Act of 1933, and at least 1,000 security holders who receive annual reports containing certified financial statements of the issuer.

EFFECTIVE DATE: March 15, 1979; however, persons desiring to use the revised form prior to that date may do so, provided they comply with all applicable provisions of the new form.

FOR FURTHER INFORMATION CONTACT:

Steven J. Paggioli, Office of Disclosure Policy and Proceedings, Division of Corporation Finance, Securities and Exchange Commission, 500 North Capitol Street, Washington, D.C. 20549, (202/376-8090).

SUPPLEMENTARY INFORMATION: On September 7, 1978, the Commission authorized for publication proposed amendments to Form S-16 (17 CFR 239.27), a form for the registration of certain securities under the Securities Act of 1933 ("Securities Act") (15 U.S.C. 77a et seq. as amended by Pub. L. No. 94-29 (June 4, 1975)). Securities Act Release No. 5974 (43 FR 41052) invited comments on these proposed amendments which would generally expand the class of subsidiary issuers eligible to use the form for primary offerings to include those whose parents do not guarantee their securities as to principal and interest and also allow the use of the form for the registration of equity securities of such issuers. In addition to the general requirements for the use of Form S-16 and the market capitalization requirement of the parent, the eligibility criteria proposed in Release 33-5974 for subsidiaries included (1) the existence of outstanding debt or equity securities held by nonaffiliates, with an aggregate principal amount or market value of at least $250 million, the offer or sale of which has been registered pursuant to the provisions of Section 6 of the Securities Act, (2) compliance with certain specified earnings to fixed charges ratios (varying according to industry) for the most recent fiscal period reported, and (3) the existence of at least 2,500 security holders who receive annual reports from the issuer containing certified financial statements.

This release contains a general discussion of the background and purpose of the amendments proposed in Release No. 33-5974, the comments received on the proposal,[1] and the Commission's response to those comments. The text of the amendments should be consulted for a complete understanding of the new provisions.

BACKGROUND AND PURPOSE

On April 11, 1978, the Commission in Securities Act Release No. 5923 (43 FR 16672) announced the adoption of amendments making Form S-16 available for the first time for primary offerings by issuers under certain specified conditions. The amendments reflected in part the recommendation of the Advisory Committee on Corporate Disclosure ("Advisory Committee") that Form S-16 be available for the registration of securities to be offered directly to the public by a "small top tier of companies * * * which usually provide high quality corporate communication documents, including 1934 Act reports, * * * whose corporate information is widely disseminated * * * [and] which are widely followed by debt and equity analysts."[2] One of the major conditions ultimately adopted in furtherance of identifying a category of such issuers was the requirement that an issuer have outstanding voting stock held by nonaffiliates with an aggregate market value of at least $50 million, the relation of this requirement to the issuer's voting stock, however, was criticized by several commentators who noted that many companies with no publicy held voting stock may be better established than those with such stock.[3] Accordingly, the amendments that were adopted in Release 33-5923 allow the use of Form S-16 by issuers with no publicly held voting stock when the issuer is a majority owned subsidiary and its parent meets the $50 million market capitalization requirement and guarantees the securities as to principal and interest.

As noted in Release 33-5974, subsequent to the adoption of these amendments, further comments were received to the effect that several subsidiary issuers, such as finance and utility companies, are among the largest and best established business concerns and frequently finance externally. Substantial public information is available regarding these issuers in view of their previous issuance of securities and reporting history. It was further suggested that, in view of the quality of these subsidiary issuers, parent companies generally need not and do not guarantee their securities. In light of these concerns, the Commission in Release 33-5974 proposed amendments to the form that would enable subsidiary issuers to use the form for primary offerings in the absence of a parent guarantee provided that they meet certain criteria intended to assure the satisfaction of similar standards of information dissemination and significant interest by securities professionals that must be met by their parent companies. These additional criteria proposed in Release 33-5974, the comments received thereon, and the Commission's response as reflected in the final amendments are discussed immediately below.

ADOPTION OF REQUIREMENT OF $250 MILLION AGGREGATE PRINCIPAL AMOUNT OR MARKET VALUE OF OUTSTANDING SECURITIES

In addition to the general requirements that the issuer satisfy the rules for the use of Form S-7[4] and that its parent meet the $50 million voting stock market capitalization requirements, the first eligibility requirement proposed in Release 33-5974 would require the issuer to have outstanding debt or equity securities held by non-affiliates, with an aggregate principal amount or market value of at least $250 million, the offer or sale of which has been registered pursuant to the provisions of Section 6 of the Securities Act. As noted in Release 33-5974, this proposed standard was intended to assure that the form is available to a category of issuers which are likely to be the subject of significant interest within the investment community and about which adequate current information is likely to be widely disseminated as a result of their size and registration and reporting history.

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[1] See comments collected at File No. S7-754.

[2] Report of the Advisory Committee on Corporate Disclosure to the Securities and Exchange Commission ("Report"), House Committee on Interstate and Foreign Commerce, 95th Cong., 1st Sess., Committee Print 95-29 at 433-34.

[3] See comments collected at File No. S7-725.

[4] Generally, an issuer may use Form S-16 if it meets the conditions for use of Form S-7, which require an issuer (a) to have a class of securities registered under section 12 or be subject to the reporting requirements of section 15(d) of the Securities Exchange Act of 1934; (b) to have been subject to the requirements of sections 12 or 15(d) and to have filed all applicable reports for 36 calendar months prior to filing the registration statement and have timely filed all required reports for the past 12 calendar months; (c) to have had no default in payments on preferred stock, indebtedness for borrowed money or long-term leases during the past 36 months; and (d) to have had consolidated net income of at least $250,000 for 3 of the last 4 fiscal years, including the most recent fiscal year. See 17 CFR 239.26.

While the commentators generally did not object to the concept of an outstanding securities requirement for majority or greater owned subsidiary issuers, some commentators felt that the $250 million standard was too high and suggested reduction to various levels. A few commentators believed that the $50 million standard applicable to parent company voting stock also would be appropriate for subsidiaries.

While the Commission recognizes that any choice of a requisite amount or value of outstanding securities must to a degree be arbitrary, it believes that the standard proposed is appropriate and should be adopted. On balance the $250 million level would appear to provide a means of assuring that the initial group of issuers eligible for the form would be those high quality, well established issuers for which the Advisory Committee urged expanded access to the short form. The $250 million standard adopted today will be monitored and in the event that a reduction would be appropriate to fully implement the Advisory Committee's recommendation, such reduction may be considered at a later date.

Deletion of Proposed Coverage Ratio Requirement

An additional eligibility standard proposed in Release 33-5974 would have required that the issuer's earnings for the last fiscal year or 12-month period reported in the registration statement, after all operating and income deductions except fixed charges and taxes based on income or profits after eliminating undistributed income of unconsolidated subsidiaries and 50 percent or less owned persons must be at least: (a) 1.25 times fixed charges for finance companies, (b) 3 times fixed charges for utilities, and (c) 6 times fixed charges for any other issuers. The earnings to fixed charges ratio criterion was also intended to assure that the form be available only to high quality issuers whose earnings exceed fixed charges by a generally accepted multiple amount for the particular industry in which the issuer is engaged. As noted in Release 33-5974, the proposed ratios were based upon one of the conditions for use of Form S-9,[5] a now rescinded form for registration of certain debt securities.

Several commentators believed that the coverage ratios proposed were too stringent and thought that this requirement would limit access to the form to all but a few additional subsidiary issuers. These commentators were also opposed to the use of the Form S-9 coverage ratios, even for an initial period, since in their view the limited use of Form S-9 was directly attributable to the inability of many issuers to meet the ratios, a result which would defeat the purpose of the proposal.

More significantly, many commentators believed that maintenance of a specified earnings to fixed charges ratio is not a reliable indicator of whether a particular issuer is of the high quality, financially sound caliber contemplated by the Advisory Committee for expanded availability of the form. These commentators pointed out that many high quality issuers maintain lower ratios because they can operate with higher financial leverage and at lower interest margins than less seasoned issuers. Similarly, some commentators noted that the securities of many issuers who could meet the proposed ratio requirements often are given lower ratings by rating agencies than the securities of more established companies that do not meet the ratios.

The Commission has considered the views of the commentators and has determined not to adopt the proposed eligibility standard based on coverage ratios at this time. Since maintenance of specified coverage ratios may not be substantially related to the status of a particular company with respect to size or information dissemination, adoption of this requirement would not appear to assist in assuring that the form is available to the desired category of issuers. The commission also notes that issuers who use Form S-16 must meet the conditions for the use of Form S-7, which include specific requirements as to net income and absence of certain defaults, as well as currency of Exchange Act reports.[6] Accordingly, the Commission believes that the objective of the proposals may be achieved without adopting a coverage ratio requirement that may impose hardships on issuers who would otherwise have access to the form.

Reduction of the Required Number of Security Holders Receiving Annual Reports

The final eligibility requirement proposed in Release 33-5974 would have required that the issuer have at least 2,500 security holders who were furnished an annual report containing certified financial statements for its most recent fiscal year. In that release the Commission noted that, although issuers eligible to use the form must be subject to the Exchange Act reporting requirements and be current in filing of such reports, actual distribution of these documents may not be extensive for issuers with no publicly held voting securities.[7] This final proposal was intended to help assure an adequate level of information dissemination.

While the commentators did not object to the concept of requiring a minimum number of security holders who receive annual reports, most commentators believed that the number chosen was unrealistically high. These commentators pointed out that the securities of those issuers with no publicly held voting securities, particularly debt issuers, may be held by a relatively small number of institutional investors. Many high quality issuers would thus be precluded from using the form. The commentators also noted that many of such issuers will respond to reasonable requests for financial information from institutional or individual investors and pointed out that much information is available from widely distributed financial reporting services and rating institutions. Accordingly, most commentators recommended a reduction in the number of security holders who receive annual reports containing certified financial statements of the issuer.

The Commission has considered the commentators' views and believes that the proposed number of security holders receiving annual reports should be reduced in order to assure increased access to the form and can be reduced without an adverse effect on the goal of adequate information dissemination. Accordingly, the number of security holders has been reduced in the final amendment to 1,000. In addition, since annual reports of certain parent company issuers sometimes contain separate certified financial statements of subsidiaries, the amendment permits issuers to use such reports in meeting the requirement to distribute reports to shareholders of the subsidiary issuer.[8]

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[5] Form S-9 was a registration form available for registration of nonconvertible, fixed-interest debt securities of an issuer required to file reports pursuant to section 13 or 15(d) of the Exchange Act. That form required certain earnings to fixed charges ratios as a condition to its use. Form S-9 was rescinded on Dec. 20, 1976, in view of the minimal number of registrations that had been filed on the form in recent years. Securities Act Release No. 5791, 41 FR 56306, Dec. 20, 1976.

[6] *See* note 4 supra.

[7] Release 33-5974 referred to a recent survey of corporations having over $4 billion in outstanding debt and over 30,000 bondholders. That survey indicated that only 28 percent of such bondholders received annual reports and only 20 percent received interim reports. The survey is referred to in the report of the Fixed Income Analysts Society to the Advisory Committee. *See* Report at A-65-66.

EFFECTIVE DATE AND OPERATION

The amendments contained in this release shall be effective on March 15, 1979. Persons desiring to rely on the provisions of the newly amended form may do so prior to that date, provided that they comply with all applicable provisions. Because of the Commission's responsibility to protect investors and safeguard the public interest in connection with sales and purchases of securities, the adoption of these amendments is in the nature of an experiment and the broadened availability of the form will be monitored. This will permit consideration of amendments to further expand the class of issuers which can use the form, or the types of offerings for which the form can be used, or to limit the availability of the form if the protection of investors so requires.

TEXT OF THE AMENDMENTS

The text of the amendments is set forth below:

Form S-16 (17 CFR 239.27) is amended as follows:

§ 239.27 Form S-16, for registration under the Securities Act of 1933 of securities of certain issuers offered pursuant to certain types of transactions.

* * * * *

(No change in facing page.)

GENERAL INSTRUCTIONS

A. Rule as to Use of Form S-16: Form S-16 may be used for registration under the Securities Act of 1933 of securities offered in the transactions specified below, if the issuer meets the requirements for the use of Form S-7 (17 CFR 239.26) at the time of filing the registration statement:

1. Transactions involving certain primary offerings. Debt or equity securities offered for cash by or on behalf of the issuer provided the following conditions are met:

(a) The issuer meets the conditions listed in (i), (ii), or (iii) below. The aggregate market value of the issuer's or its parent's outstanding common stock shall be computed by reference to the price at which the stock was sold, or the average of the bid and asked prices of such stock, as of a specified date within 60 days prior to the date of filing. (See the definition of affiliate in Rule 405, 17 CFR 230.405).

(i) The aggregate market value of the voting stock held by nonaffiliates of the issuer is $50 million or more; or

(ii) The aggregate market value of the voting stock of the issuer's parent held by nonaffiliates is $50 million or more, the issuer is a majority owned subsidiary and its parent has fully guaranteed the securities as to principal and interest; or

(iii) The aggregate market value of the voting stock of the issuer's parent held by nonaffiliates is $50 million or more, the issuer is a majority owned subsidiary; and

A. The issuer has outstanding securities held by nonaffiliates, with an aggregate principal amount or market value (computed in accordance with instruction A(1)(a) above) of at least $250 million, the offer or sale of which has been registered pursuant to the provisions of section 6 of the Securities Act of 1933, 15 USC 77f; and

B. The issuer has at least 1,000 security holders to whom the issuer has furnished an annual report containing certified financial statements for its most recent fiscal year. An annual report of the issuer's parent that contains separate certified financial statements of the issuer may be used to satisfy this requirement.

* * * * *

(No other change in General Instruction A(1).)

(No other change in Form S-16.)

(Secs. 6, 7, 10, 19(a), 48 Stat. 78, 81, 85; secs. 205, 209, 48 Stat. 906, 908; sec. 8, 68 Stat. 658; sec. 1, 79 Stat. 1051; (15 U.S.C. 77f, 77g, 77j, 77s(a)))

STATUTORY AUTHORITY

The foregoing amendments are adopted pursuant to the Securities Act of 1933, particularly sections 6, 7, 10 and 19(a) thereof.

By the Commission.

GEORGE A. FITZSIMMONS,
Secretary.

FEBRUARY 1, 1979.

[FR Doc. 79-4487 Filed 2-8-79; 8:45 am]

[8010-01-M]

[Release Nos. 33-6016, 34-15502, 35-20891, 39-522, IC-10563, and IA-660]

PART 270—RULES AND REGULATIONS, INVESTMENT COMPANY ACT OF 1940

Agency Rules Relating to Certain Formal Requirements for Filing of Documents; Correction

AGENCY: Securities and Exchange Commission.

ACTION: Correction.

SUMMARY: This document corrects FR Doc. 79-2262 appearing at page 4665 in the FEDERAL REGISTER of January 23, 1979. In the middle column on page 4666 the heading for Part 270 should read PART 270—RULES AND REGULATIONS, INVESTMENT COMPANY ACT OF 1940.

DATE: January 31, 1979.

FOR FURTHER INFORMATION CONTACT:

Roderic L. Woodson, Special Counsel, Office of Reports and Information Services, Securities and Exchange Commission, Washington, D.C. 20549, (202) 523-5530.

GEORGE A. FITZSIMMONS,
Secretary.

JANUARY 31, 1979.

[FR Doc. 79-4486 Filed 2-8-79; 8:45 am]

[8010-01-M]

[Release No. 35-20910; File No. S7-741]

PART 250—GENERAL RULES AND REGULATIONS, PUBLIC UTILITY HOLDING COMPANY ACT OF 1935

PART 256—UNIFORM SYSTEM OF ACCOUNTS FOR MUTUAL SERVICE COMPANIES AND SUBSIDIARY SERVICE COMPANIES, PUBLIC UTILITY HOLDING COMPANY ACT OF 1935

Final Rules

AGENCY: Securities and Exchange Commission.

ACTION: Final rules.

SUMMARY: The Commission is amending its Uniform System of Accounts for Mutual and Subsidiary Service Companies promulgated pursuant to the Public Utility Holding Company Act of 1935 to provide for a system of accounts which follows, with modifications, The Federal Energy Regulatory Commission's Uniform System of Accounts. The Commission is amending Rule 93 to require service companies to keep their accounts and records in accordance with the amended Uniform System of Accounts. These amendments require the service companies to (1) design subaccounts and keep memorandum and time records to facilitate the preparation of reports and statements required by regulatory commissions and the conduct of audit and account inspection programs, (2) establish a work order system to accumulate reimbursable costs and charges to customers, and (3) account for compensation for use of capital, if paid.

EFFECTIVE DATE: The rule and System of Accounts published in this release shall be effective January 1, 1980, but service companies may elect to implement it prior to that date.

FOR FURTHER INFORMATION CONTACT:

Leon C. Rubin, (202) 523-5677, and

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[8] The distribution of the issuer's annual report on Form 10-K (17 CFR 249.310) for its most recent fiscal year may be distributed in satisfaction of this requirement.

Robert P. Wason, (202) 523-5159, Division of Corporate Regulation, Securities and Exchange Commission, 500 North Capitol Street, Washington, D.C. 20549.

SUPPLEMENTARY INFORMATION: The Uniform System of Accounts For Mutual and Subsidiary Service Companies ("Uniform System of Accounts") was adopted May 12, 1936. Historically, the activities of service companies have centered on accounting, administrative, financing and engineering services. Today, such companies' services have been expanded to include data processing, modeling, fuel management and analysis, rate analysis, system analysis, budgeting, and other support services. There are presently eleven jurisdictional subsidiary companies which, during 1977, rendered over $363 million of services, at cost, to the jurisdictional electric and gas operating utilities. The cost of these services represented 2.10% of operating revenues of these utilities.

Operating utilities not part of holding company systems generally perform these functions themselves with the aid of independent contractors. Many of these operating utilities are subject to the jurisdiction of the Federal Energy Regulatory Commission ("FERC"), formerly the Federal Power Commission, and keep their accounts and records in accordance with the FERC Uniform System of Accounts ("FERC System of Accounts"). Most of the remaining operating utilities keep their accounts and records in accordance with the uniform system of accounts prescribed by their respective state regulatory commissions, which in most instances is similar to the FERC System of Accounts. The FERC System of Accounts is designed for operating utilities. Although it is broad enough to cover the costs associated with self performed service functions, it does not deal with the accounting requirements of service, at cost, by a separate service company to a group of associated utility companies.

On May 25, 1978, we published a release (HCAR No. 20547), 43 FR 22379, in which we proposed amendments to the Uniform System of Accounts for Mutual and Subsidiary Service Companies (17 CFR 256) and to Rule 93 (17 CFR 250.93) which would require service companies to keep their accounts and records in accordance with the amended Uniform System of Accounts.

Interested parties were afforded the opportunity to file comments and suggestions. After careful consideration of the comments submitted we have concluded that the proposed amendments to the Uniform System of Accounts and to Rule 93 should be adopted. Several modifications and clarifications have, however, been made to the Uniform System of Accounts in view of the comments and suggestions filed.

ANALYSIS OF COMMENT LETTERS

Nineteen comment letters were filed. Of those letters, 15 were from state public utility commissions and four were from jurisdictional companies. Many of the state commissions which commented expressly stated that they were in favor of the proposed revisions to the Uniform System of Accounts. These comments pointed to the benefits to be derived from the detailed accounting system, namely, the promotion of more efficient and effective regulation and the compatibility of this accounting system with the FERC Uniform System of Accounts. None of the state commissions objected to our revision. Several recommended improvements.

One state commission commented that any adjustments to estimated cost should be clearly indicated in billings rendered by the service company in order to facilitate the consideration of such adjustments in retail rate proceedings. That commission also recommended that the service company billing system be modified to reflect the method of overhead allocation as well as the effect of any changes in such method. We have adopted these recommendations to § 256.00-1(d) (Preface) because we are of the opinion they would facilitate audit and inspection.

It was also suggested by a state commission that the factors for allocating indirect costs and compensation for use of capital be prescribed. It was stated that the proposed Uniform System of Accounts did not clearly indicate the method to be used in determining billings for indirect costs and for compensation for use of capital.

Registered systems and service company operations are too diverse to permit the adoption of a general formula for overhead allocation. Allocation methods have been dealt with by order in the application process for authorizing service company operations under Sections 13(c) and 13(d) of the Act. We have made express reference to this procedure by adding § 256.01-11 (Methods of allocation), directing that indirect costs and compensation for use of capital shall be allocated in accordance with the service company's applicable and currently effective methods of allocation filed with the Commission. In this connection, we have deleted as redundant the final instruction to account 458-4 (Excess or deficiency on servicing nonassociate companies) which dealt with one aspect of the same subject.

Several state commissions expressed an interest in receiving copies of the service company annual reports required to be filed with this Commission. One commission proposed an amendment to the Uniform System of Accounts which would require service companies to file a copy of this report with the state commission having jurisdiction. Rule 94 (17 CFR 250.94), Annual Report for Mutual and Subsidiary Service Companies, deals with the filing of annual reports by service companies on Form U-13-60. This recommendation will be considered in the context of the contemplated revision of that Form and rule rather than in the context of this rulemaking. State commissions need not defer requiring that such reports be supplied now to them. The reports are public records.

Eleven jurisdictional service companies submitted a joint comment letter and enclosed a proposed revised Uniform System of Accounts which reflected the recommendations made in their joint comments and additional revisions. Three supplemental comment letters were also submitted. The service companies have expressed basic agreement with our proposed Uniform System of Accounts but have criticized some of the details required by the proposed accounting system. The joint comment states that the detailed invoicing requirement contained in the instructions to the income accounts will result in a duplication of effort and undue expense. Those instructions state that invoices shall be submitted to associate companies with sufficient information and detail to permit the associate company to identify the charge "as if it itself provided the services." One service company emphasized in a separate comment that these detailed invoicing requirements would impose an undue burden upon it in assembling the data needed in the preparation of invoices. It stated that the additional effort required would not result in any corresponding benefits and recommended that the phrase "as if it itself provided the service" be deleted from those instructions.

One of the purposes of the revision is to provide a fuller identification of charges to facilitate accounting by the associate companies and regulatory audit. We agree that the phrase "as if it itself provided the services" could create unintended difficulties. It has been deleted.

The service companies were concerned that the requirements for separate accounting for contracts with nonassociates might reflect hostility to such activity. While service companies exist to serve companies in their system "at cost, fairly and equitably allocated among such companies," this does not preclude incidental relationships with other utilities, such as co-owners of generating plants, productive use of temporarily unused capacity or participation in utility related research or development activity. The comments stress Department of Energy projects, which the regulated systems and their service companies are particularly well qualified to perform.

The existence of such activities was recognized in the 1936 system of accounts, as it is in the present system. Since contracts with nonassociates are not governed by the service at cost requirement, such contracts may produce a profit or a loss. Instruction A under the heading "Allocation of Cost of Service" in the 1936 system, dealing with such contracts, has been replaced by appropriate accounts in the new system, culminating in account 458-4 (Excess or Deficiency on Servicing Nonassociate Companies). The work order system will permit and require appropriate identification of the costs of all specific jobs, including those with nonassociates. The segregation of this readily identifiable class of activity is necessary to facilitate regulatory audit.

There is no implication of impropriety because a loss is incurred on a contract with a nonassociate. The service companies state that Department of Energy contracts sometimes fail to cover fully allocated overheads, but do produce collateral benefits and are clearly in the public interest. In these and other cases, it may also be economically beneficial to utilize available resources, even though priced on an incremental cost rather than a fully allocated cost basis.

Accordingly, Instruction 256.01-2 (Application to service companies doing business with nonassociate companies) provides:

> A deficiency incurred in a project deemed beneficial to the associate companies may be charged to associate companies subject to disallowance by a State or Federal commission having jurisdiction over the rates or services of such associates.

The system presumes that service companies will contract with third parties in the interests of the associate companies they serve, but preserves the jurisdiction of regulatory commissions to deal with actual cases insofar as the operating companies cost of service is affected.

The service companies requested that the requirement for a monthly statement supporting the basis for the return on equity be eliminated as not cost-beneficial to the holding company systems. We have modified the requirement to account 457-3 (Compensation for use of capital-associate companies) and have stated under § 256.01-12 (Compensation for use of capital) that such compensation may be estimated but stated separately in each billing to the associate companies. Instead of a monthly statement, an annual statement will be supplied to each associate company at the end of the calendar year to support the amount of compensation billed for the previous twelve months.

The service companies' recommended revision of the Uniform System of Accounts would have added the words "whenever possible" to subsections (b) and (c) of § 256.01-4 (Construction or service contracts and centralized procurement accounting), and to the Note to account 146 (Accounts receivable from associate companies). Those revisions, if adopted, would permit the service company (1) to act as intermediary in purchasing materials, meeting payrolls, and paying for other outside services in construction projects or goods purchased under centralized procurement activities and (2) to make other payments to the vendor or supplier for the convenience of the associate companies. Although we recognize that there may be situations which call for convenience payments, we think that construction costs and costs of goods purchased under centralized procurement should be paid for by the user company. Use of the service company magnifies the audit task. We, therefore, decline to adopt the proposed revisions to §§ 256.01-4(b) and (c).

We have modified the language of account 146 to provide for occasional payments to accommodate associate companies in emergency situations and in instances where such payments would result in significant cost or time savings to the associate company. We have not accepted the proposed revision to account 146 because that revision might sanction convenience payments under less exigent circumstances.

The service companies also urged us to eliminate certain accounts on the basis that they are unnecessary or represent a duplication of the work order system prescribed in the Uniform System of Accounts. They were of the opinion that accounts 123 (Investment in associate companies) and 144 (Accumulated provision for uncollectible accounts), 145 (Notes receivable from associate companies), 221 (Bonds), 225 (Unamortized premium on long-term debt), and 226 (Unamortized discount on long-term debt-debit), were unnecessary because they would have no applicaton to service companies in the foreseeable future. We are well aware that not all the accounts prescribed will be used. A service company need not utilize or incorporate in its reports accounts in which no entries will be made. While it is not expected that service companies will make investments in associate companies, it is not inconceivable that special circumstances might make it desirable to segregate legally a particular function. It would be rash to exclude the possibility of long term debt financing. Accounts 123, 144, 225, and 226 are retained in the Uniform System for use if the occasion arises.

We have deleted account 145 (Notes receivable from associate companies) because such transactions, if they do occur, can be recorded in account 123, and have deleted account 221 (Bonds) because such obligations, if any, can be recorded in account 224 (Other long term debt).

The service companies were critical of our inclusion of accounts 152 (Fuel stock expenses undistributed), 163 (Stores expense undistributed), 188 (Research, development and demonstration expenditures), 928 (Regulatory commission expense), and 930.1 (General advertising expense), because they were of the opinion that these accounts would represent duplication of activities properly accounted for in the work order system. We are not persuaded by this argument. These accounts do not duplicate work order entries for applicable transactions but merely provide a summarization of the total monthly expenditures incurred in connection with these transactions. Moreover, these accounts facilitate the conduct of audit and inspection programs. Accordingly, we deny the request that these accounts be deleted.

The service companies recommended in their joint-comments that only three revenue accounts be established: (1) Account 457-1 (Direct costs charged to associate companies); (2) Account 457-2 (Indirect costs charged to associate companies); and (3) Account 457-3 (formerly, -5) (Compensation for use of equity capital). They also recommended the deletion of account 457-3 essential where costs are being distributed to several companies. For the same reason, we cannot assimilate a department to a project or job. If a whole department works on a single project, as in the case of a tax department preparing a consolidated tax return, its costs would be, for that period, charged to that single work order. But that tax department may also deal with diverse assessments and taxes in various parts of the multistate utility system it serves, requiring separate work orders for the projects performed. We have modified the definition of "work order system" to clarify our intent that such a work order system shall include the records, schedules and worksheets used to account for charges billed to single and groups of associate and nonassociate companies. We have deleted the final sentence of the definition because it is in the nature of an instruction which should be contained in § 256.01-11 (Methods of allocation), rather than in a definitional section.

The service companies' proposed revision would change the work "shall" contained in the first sentence of account 154 (Materials and supplies) to "may." The effect of this revision would be to make the utilization of this account discretionary. We have adopted this recommendation because a specific account to summarize generally insignificant expenditures for materials and supplies held for use by the service company would be unduly burdensome.

Accounts 457-2 (Indirect costs charged to associate companies) and 458-2 (Indirect costs charged to nonassociate companies) have been shortened by deleting examples already adequately incorporated through the definition of indirect cost in § 256.01-8(i).

The service companies noted the proposed effective date of January 1, 1979 did not allow sufficient time for the implementation of a revised accounting system. We have changed the effective date to January 1, 1980. Service companies are, nevertheless, authorized to implement the new system, in whole or in part, at any time during the calendar year 1979. The service companies also requested that the Uniform System of Accounts become effective after the Form U-13-60 Annual Report is revised in order to allow the companies sufficient time to establish the necessary internal procedures required to collect the data required in the Annual Report. One service company filed its additional comments urging us to revise Form U-13-60 as promptly as possible after the adoption of this Uniform System of Accounts. It also requested that we allow a full calendar year to elapse before the revised Form U-13-60 becomes effective. It is contemplated that Rule 94 and Form U-13-60 will be promptly revised.

We see no necessity to defer use of the new system of accounts until the Form U-13-60 Annual Report is revised. The revised form will be based on the new system of accounts, which may be used with confidence as to their adequacy to generate the data required for the report. The new system of accounts is also sufficient to provide the data required for the existing Form U-13-60 Annual Report, as long as subaccounts to account 923 (Outside services employed) are kept to distinguish among legal, engineering, tax, audit and other classes of professional service as required by old accounts 213-217 inclusive, and records are maintained to account 921 (Office supplies and expense) for old accounts 211, 220, 221 and account 930.2 (Miscellaneous general expense) for old accounts 212, 225 and 228.

The revised Uniform System of Accounts replaces the Commission's present system of accounts for service companies adopted in 1936 with a system consistent with the FERC System of Accounts. It also provides for accounts analyzing service company revenues and the rate of return on service company capital, all of which are generally included in the cost of service of the operating utilities. The amended Rule 93 requires service companies to keep their accounts and records in accordance with the revised Uniform System of Accounts. It requires service companies to design a subaccount structure and to keep memorandum and time records appropriate to any service functions or departmental organizations needed for a full accounting of all transactions of such company.

The Commission believes that the revised Uniform System of Accounts: (1) Facilitates coordination of accounts for consolidation purposes, (2) facilitates the preparation of reports and statements required by regulatory commissions and the conduct of audit and account inspection programs, and (3) incorporates generally accepted accounting principles, standards and regulations.

RULES AS ADOPTED

Pursuant to provisions of the Public Utility Holding Company Act of 1935 (Secs. 13, 15, and 20(a), 49 Stat. 825, 828, 833; 15 U.S.C. 79m, 79o, 79t), the Commission hereby amends 17 CFR Chapter II as follows:

PART 250—GENERAL RULES AND REGULATIONS, PUBLIC UTILITY HOLDING COMPANY ACT OF 1935

1. By revising § 250.93 to read as follows:

§ 250.93 Accounts and records of mutual and subsidiary service companies.

Every mutual service company and every company whose organization and conduct of business the Commission has found, pursuant to § 250.88, to meet the requirements of section 13(b) (49 Stat. 825; 15 U.S.C. 79m) shall keep such accounts, cost-accounting procedures, correspondence, memoranda, papers, books, and other records in such manner and preserve them for such periods, as are prescribed in the Uniform System of Accounts for Mutual and Subsidiary Service Companies under the Public Utility Holding Company Act of 1935 (49 Stat. 803, et seq., 15 U.S.C. 79a to 79z-5), dated May 12, 1936, as amended from time to time and shall keep no other records with respect to the same subject matter except (a) records other than accounts, (b) records required by state law, (c) subaccounts or supporting accounts which are not inconsistent with the accounts required by such uniform system, and (d) such other accounts as may be authorized by the Commission.

PART 256—UNIFORM SYSTEM OF ACCOUNTS FOR MUTUAL SERVICE COMPANIES AND SUBSIDIARY SERVICE COMPANIES, PUBLIC UTILITY HOLDING COMPANY ACT OF 1935

2. By revising and restating Part 256 to read as follows:

GENERAL INSTRUCTIONS

Sec.
256.00-1 Preface.
256.01-1 Companies for which this system of accounts is prescribed.
256.01-2 Application to service companies doing business with nonassociate companies.
256.01-3 General structure of accounting system.
256.01-4 Construction or service contracts, and centralized procurement accounting.
256.01-5 Determination of service cost accounting.
256.01-6 Departmental classification required.
256.01-7 Records.
256.01-8 Definitions.
256.01-9 Unbilled items.
256.01-10 Billing procedures.
256.01-11 Methods of allocation.
256.01-12 Compensation for use of capital.
256.01-13 Submission of questions.

BALANCE SHEET ACCOUNTS: ASSETS AND OTHER DEBIT ACCOUNTS

1. SERVICE COMPANY PROPERTY

256.101 Service company property.
256.107 Construction work in progress.
256.108 Accumulated provision for depreciation and amortization of service company property.

2. INVESTMENTS

256.123 Investment in associate companies.
256.124 Other investments.

3. CURRENT AND ACCRUED ASSETS

256.131 Cash.
256.134 Special deposits.
256.135 Working funds.
256.136 Temporary cash investments.
256.141 Notes receivable.
256.143 Accounts receivable.
256.144 Accumulated provision for uncollectible accounts.
256.146 Accounts receivable from associate companies.
256.152 Fuel stock expenses undistributed.
256.154 Materials and supplies.
256.163 Stores expense undistributed.
256.165 Prepayments.
256.174 Miscellaneous current and accrued assets.

4. DEFERRED DEBITS

256.181 Unamortized debt expense.
256.184 Clearing accounts.
256.186 Miscellaneous deferred debits.
256.188 Research, development or demonstration expenditures.

Sec.
256.190 Accumulated deferred income taxes.

LIABILITIES AND OTHER CREDIT ACCOUNTS

5. PROPRIETARY CAPITAL

256.201 Common stock issued.
256.211 Miscellaneous paid-in-capital.
256.215 Appropriated retained earnings.
256.216 Unappropriated retained earnings.

6. LONG-TERM DEBT

256.223 Advances from associate companies.
256.224 Other long-term debt.
256.225 Unamortized premium on long-term debt.
256.226 Unamortized discount on long-term debt-debit.

7. CURRENT AND ACCRUED LIABILITIES

256.231 Notes payable.
256.232 Accounts payable.
256.233 Notes payable to associate companies.
256.234 Accounts payable to associate companies.
256.236 Taxes accrued.
256.237 Interest accrued.
256.238 Dividends declared.
256.241 Tax collections payable.
256.242 Miscellaneous current and accrued liabilities.

8. DEFERRED CREDITS

256.253 Other deferred credits.
256.255 Accumulated deferred investment tax credits.

9. ACCUMULATED DEFERRED INCOME TAXES

256.282 Accumulated deferred income taxes

INCOME AND EXPENSE ACCOUNTS

1. INCOME

256.457 Services rendered to associate companies.
256.458 Services rendered to nonassociate companies.
256.421 Miscellaneous income or loss.

2. EXPENSE

256.920 Salaries and wages.
256.921 Office supplies and expenses.
256.922 Administrative expense transferred-credit.
256.923 Outside services employed.
256.924 Property insurance.
256.925 Injuries and damages.
256.926 Employee pensions and benefits.
256.928 Regulatory commission expense.
256.930.1 General advertising expenses.
256.930.2 Miscellaneous general expenses.
256.931 Rents.
256.932 Maintenance of structures and equipment.
256.403 Depreciation and amortization expense.
256.408 Taxes other than income taxes.
256.409 Income taxes.
256.410 Provision for deferred income taxes.
256.411 Provision for deferred income taxes—credit.
256.411.5 Investment tax credit.
256.426.1 Donations.
256.426.5 Other deductions.
256.427 Interest on long-term debt.
256.430 Interest on debt to associate companies.

Sec.
256.431 Other interest expense.

AUTHORITY: Secs. 13, 15, 20, 49 Stat. 825, 828, 833; 15 U.S.C. 79m, 79o, 79t.

GENERAL INSTRUCTIONS

CROSS REFERENCES. For general rules and regulations, Public Utility Holding Company Act of 1935, see Part 250 of this chapter. For rule adopting this Uniform System of Accounts, see § 250.93. For regulations under Section 13 of the Act, see § 250.80 to 250.95.

NOTE.—Cross references to accounts are made by citing the account number, e.g., account 201 instead of the corresponding section number (§ 256.201).

§ 256.00-1 Preface.

(a) The accompanying Uniform System of Accounts for Mutual Service and Subsidiary Service Companies represents a modernization of the accounting system for such companies to provide a detailed system of accounts which is tailored to present and expanded services, including data processing, modeling, rate analysis, system analysis, budgeting and other support services such as fuel management and analysis, being rendered by such companies. This Uniform System of Accounts is not applicable to gas or electric utility companies, or companies primarily engaged (1) in production of goods, including exploration and development of fuel resources, (2) in the provision of water, telephone, or similar services, the sale of which is normally subject to public rate regulation, (3) in provision of transportation, whether or not so regulated, or (4) in the ownership of property, including leased property and fuel reserves, for the use of associate companies.

(b) It has been the Commission's task to provide a system comprehensive enough to cover the traditional services and the present services being performed by such companies, yet elastic enough to permit adaptation to varying requirements; a system which, faithfully applied, will provide information essential in the administration of section 13 of the Public Utility Holding Company Act of 1935, will be workable and reasonably simple from an operating viewpoint, and free from unnecessary complexities or burdensome requirements which might render it incompatible with the interests of investors or consumers.

(c) This Uniform System of Accounts requires the service company to (1) design subaccounts and keep memorandum and time records to facilitate the preparation of reports and statements required by regulatory commissions and the conduct of audit and account inspection programs, (2) establish a work order system to accumulate reimbursable costs and charges to customers, and (3) account for compensation for use of capital, if paid.

(d) Credits to the accounts or memorandum records may be made upon the basis of estimated costs to associate companies which shall conform as nearly as may be practicable to actual costs, provided that at stated intervals adjustments of the estimated costs to actual costs shall be made. Invoices to associate companies shall clearly indicate any adjustments to estimated cost previously billed. Such adjustments may be made at intervals during the fiscal year, but final adjustments shall be made at the end of such year. Overbillings or underbillings arising from these adjustments shall be cleared through the appropriate account and offset by adjustments to other accounts involved.

(e) The "expense" accounts provided have been designed to show the cost of each general class of service furnished by the service company and with a view toward securing an equitable allocation thereof to the associate companies served.

(f) Consideration was given in the preparation of this system to the necessity of providing for a more detailed classification of service costs in order to permit these costs to be identified with the functional processes of the associate companies served. In this connection, each service company shall maintain a work order system for accumulating reimbursable costs and charges to customers and maintain time records for all service company employees in order to support the accounting allocation of all expenses assignable to the types of services performed and chargeable to the companies served.

(g) It is believed that the results to be obtained from the system now prescribed, together with the more detailed information to be called for in the annual reports, will provide a better basis for identifying cost than is presently available.

§ 256.01-1 Companies for which this system of accounts is prescribed.

(a) This Uniform System of Accounts is designed for use by: (1) Any company operating, or organized to operate, as a mutual service company under the provisions of Section 13 of the Public Utility Holding Company Act of 1935, and (2) any subsidiary company whose organization and conduct of business the Commission has found to meet the requirements of Section 13(b) of the Public Utility Holding Company Act of 1935, with respect to the performance of services or construction work for, or the sale of goods to, associate companies.

(b) This Uniform System of Accounts is not applicable to gas or electric utility companies; or companies primarily engaged (1) in production of goods, including exploration and development of fuel resources, (2) in the provision of water, telephone, or similar services, the sale of which is normally subject to public rate regulation, (3) in provision of transportation, whether or not so regulated, or (4) in the ownership of property, including leased property and fuel reserves, for the use of associate companies.

§ 256.01-2 Application to service companies doing business with nonassociate companies.

While this Uniform System of Accounts is designed for companies whose principal business is the performance of services or construction for associate companies at cost, it contemplates situations in which the service company may perform service or construction for nonassociate companies in transactions in which charges are not limited to cost. In recognition of such charges account 458-4 is included in the "Income" group for "Excess or deficiency on servicing nonassociate companies." A deficiency incurred in a project deemed beneficial to the associate companies may be charged to associate companies subject to disallowance by a State or Federal Commission having jurisdiction over the rates or services of such associates. To the extent not so chargeable, or if disallowed, such a deficiency will be charged to account 458-4. In computing charges to associate companies for any fiscal year, any net credit in this account must be deducted from amounts reimbursable by associate companies as compensation for use of capital invested in the service company.

§ 256.01-3 General structure of accounting system.

(a) The accounts provided herein are in two general categories: Balance sheet accounts and income and expense accounts. Subsidiary accounts are provided for the details of account 101, Service company property.

(b) The income and expense accounts include, under separate divisions, accounts for recording the revenue or income earned or received and also appropriate accounts for all expenses of operation, maintenance, taxes, interest, all elements of cost allocable to the service performed, and compensation for the use of capital. Appropriate subdivisions or subaccounts should be provided for each service company department or division.

(c) All disbursements and expenses of the service company for service performed for associate companies are recoverable from such companies. In the interest of minimizing questions as to the propriety of charges for reimbursement, each service company shall maintain a work order system for accumulating all costs. To the maximum extent possible, such costs shall be accumulated by direct charges. All employees, including officers, of the service company shall keep, within reasonable cost benefit standards, time records which permit ready identification of the hours worked, account numbers charged, department work order number and other code designations that facilitate proper classification.

(d) The numbers to the right of the decimal point in most cases correspond with the respective account numbers in the Uniform System of Accounts for Public Utilities and Licensees (18 CFR Part 101) of the Federal Energy Regulatory Commission and shall be considered as parts of the account titles. Each service company, however, may adopt for its own purposes a different system of account numbers provided that the account numbers herein prescribed shall appear in the descriptive headings of the ledger accounts and, if practicable, on original source documents. Service companies adopting a different system of account numbers for their own purposes shall keep readily available a list which indicates its account numbers and the corresponding account numbers provided herein. Records of service companies shall be maintained in a manner permitting ready analysis by prescribed accounts (with direct reference to the source of each item in the books of original entry) and permitting preparation of financial operating statements directly from such records at the end of each accounting period.

§ 256.01-4 Construction or service contracts, and centralized procurement accounting.

(a) Specific accounts have not been provided in which to classify expenditures made in the performance of construction or service contracts, under which the service company undertakes projects to construct physical property for associate or nonassociate companies. The difference in the nature of undertakings which will be embraced in such contracts renders impracticable an attempt to prescribe the accounts applicable in all cases. The service company shall keep records pursuant to its work order system indicating the cost of each contract or project, the amount of service costs allocated thereto, and such additional classification of expenditures relating to projects as will meet the accounting requirements of the company for which the work is performed.

(b) Service costs allocated to construction shall include the proper proportion of salaries, expense of officers and employees, pay of employees on the service company's regular staff specifically assigned to construction work, and other expenses of maintaining the service company's organization and equipment. Cost of materials, construction payrolls, outside services, and other expenses directly attributable to construction work shall be excluded from the accounting system of the service company and charged directly by the vendor or supplier to the construction project.

(c) Service costs allocated to centralized procurement activities shall include only the cost of the support services performed by the service company in connection with the procurement of goods for associate companies. Cost of goods procured shall be excluded from the accounting system of the service company and charged directly by the vendor or supplier to the associate company concerned. The service company shall keep records indicating the cost of goods, if any, which it procures for each associate company and the amount of service costs allocated thereto. These records should be maintained to meet the Federal Energy Regulatory Commission's accounting requirements for electric and gas companies.

§ 256.01-5 Determination of service cost accounting.

Service at cost and fair allocation of costs require, first of all, an accurate accounting for the elements which make up the aggregate expense of conducting the business of the service company. In the accounts herein prescribed, the total amounts included in the expense accounts during any period plus such amount as appropriately may be added as compensation for the use of capital, if paid, constitute cost during such period.

§ 256.01-6 Departmental classification required.

The importance of "salaries and wages" as an element of cost requires analysis of this item of expense by departmental or other functional category in accordance with the departmental organization of the service company. To the extent practicable, such departmental organization should be established along lines which will provide a readily available basis for analysis.

§ 256.01-7 Records.

(a) The books of account and other records of the service company shall be so kept as to show fully the facts pertaining to all entries in these accounts. All such entries shall be supported by detailed information sufficient to permit ready identification and audit.

(b) The books and records referred to herein shall include not only accounting records in a limited technical sense but all other records such as minute books, stock books, reports, working papers, memoranda, etc., which may be useful in developing the history of or facts regarding any transactions of the service company.

(c) No company shall destroy any records except as authorized by the provisions of Part 256(a) of this chapter.

(d) The accounts may be further subdivided: *Provided*, Such subdivisions do not impair the integrity of the prescribed accounts. The titles of all subdivisions or subaccounts shall refer by number to the accounts of which they are subdivisions.

(e) Clearing-accounts shall be kept when necessary or useful in making the proper distribution of items to the appropriate accounts prescribed herein or in accumulating general overhead cost such as rent, utility, employee benefits, and other general and support services that are to be allocated to work orders.

(f) On or before the effective date of this Uniform System of Accounts, the several accounts prescribed herein shall be opened by transferring thereto the balances carried in the accounts previously maintained by the service company. The service company is authorized to make such subdivisions, reclassification, or consolidations of such balances as are necessary to meet the requirements of this Uniform System of Accounts.

(g) Except where this Uniform System of Accounts accords specific treatment for specified accounts, all accounts and financial statements shall be maintained in accordance with Regulation S-X and Accounting Series Releases of this Commission. The Uniform System of Accounts promulgated by the Federal Energy Regulatory Commission, as amended from time to time, and the interpretations thereof adopted from time to time by the Federal Energy Regulatory Commission, and accounting regulations and orders of any other Federal or State Commission having jurisdiction over associate companies shall be complied with unless expressly inconsistent with the requirements of this system.

§ 256.01-8 Definitions.

Definitions contained in the Public Utility Holding Company Act of 1935 shall be applicable to terms not specifically defined herein.

(a) "Accounts" means the accounts prescribed by this Uniform System of Accounts.

(b) "Associate company" means any company in the same holding company system.

(c) "Company" or "the company," when not otherwise indicated in the context, means the service company.

(d) "Commission" means the Securities and Exchange Commission.

(e) "Direct cost" shall include labor cost and expenses which can be identified through a work order system as being applicable to services performed for a single or group of associate and nonassociate companies. Cost incidental to or related to a directly charged item shall be classified as direct costs.

(f) "Federal commission" means any Federal agency, including the Securities and Exchange Commission, which has jurisdiction to regulate public utility companies in some relevant respect.

(g) "Federal Energy Regulatory Commission" means the Federal Energy Regulatory Commission or any successor thereto.

(h) "Holding company system" means any holding company, together with all of its subsidiary companies and all mutual service companies of which such holding company or any subsidiary company thereof is a member company.

(i) "Indirect cost" shall include those costs of a general overhead nature such as general services, housekeeping costs, and other support cost which cannot be separately identified to a single or group of associate and nonassociate companies and therefore must be allocated. Indirect costs shall be accumulated on a departmental basis.

(j) "Mutual service company," "service company" or "subsidiary service company" means a company approved by the Commission as a mutual service company or a subsidiary company of a registered holding company found by the Commission to be organized and conducted as to meet the requirements of Section 13(b) of the Act and the provisions of Rule 88 promulgated thereunder.

(k) "Nonassociate companies" means a person, partnership, organization, government body or company which is not a member of the holding company system.

(l) "Operating company" means an electric utility company or gas utility company as defined in the Public Utility Holding Company Act of 1935.

(m) "Person" means an individual or company.

(n) "State commission" means any commission, board, agency, or officer, by whatever name designated, or a State, municipality, or other political subdivision of a State which under the laws of such State has jurisdiction to regulate public-utility companies.

(o) "Uniform system of accounts" means the Uniform System of Accounts for Mutual Service Companies and Subsidiary Service Companies prescribed herein, as amended from time to time.

(p) "Work order system" means a system for the accumulation of service company cost on a job, project, or functional basis. It includes schedules and worksheets used to account for charges billed to single and groups of associate and nonassociate companies.

§ 256.01-9 Unbilled items.

When the amount of any known item affecting these accounts cannot be accurately determined in time for inclusion in the accounts of the fiscal year in which the transaction occurs, the amount of the item shall be estimated and included in the proper accounts. When the amount is ascertained, the necessary adjustments shall be made through the accounts in which the estimate was recorded. If it is determined during the interval that a material adjustment will be required, the estimate shall be adjusted through the current accounts. The service company is not required to anticipate minor items which would not appreciably affect these accounts.

§ 256.01-10 Billing procedures.

All invoices for services rendered to associate companies shall be submitted monthly with sufficient information and in sufficient detail to permit the associate company to identify and classify the charge in terms of the system of accounts prescribed by the regulatory authorities to which it is subject. Each month a statement shall be rendered to the associate company containing a summary of the accounts by work order by which the charges, classified as direct cost, indirect cost, and compensation for use of capital, can be entered in the accounts of the associate company.

§ 256.01-11 Methods of allocation.

Indirect costs and compensation for use of capital shall be allocated to work orders in accordance with the service company's applicable and currently effective methods of allocation filed with the Commission. Both direct and allocated indirect costs of work orders for two or more associate companies shall be allocated among such companies in the same manner. Each work order should identify the methods of allocation to associate companies and the accounts to be charged. The associate companies should be notified in writing of any change in the methods of allocation.

§ 256.01-12 Compensation for use of capital.

Paragraph (a) of Rule 91 provides in pertinent part that a servicing transaction shall be deemed to be performed at no more than cost if the price of such service does not exceed a fair and equitable allocation of expenses plus reasonable compensation for necessary capital procured through the issuance of capital stock. Interest on borrowed capital and compensation for the use of capital shall only represent a reasonable return on the amount of capital reasonably necessary for the performance of services or construction work for, or the sale of goods to, associate companies. Such compensation may be estimated and shall be computed monthly in the manner prescribed by the Commission. The amount of compensation shall be stated separately in each billing to the associate companies. An annual statement to support the amount of compensation for use of capital billed for the previous twelve months and how it was calculated shall be supplied to each associate company at the end of the calendar year.

§ 256.01-13 Submission of questions.

To promote and maintain uniformity in accounting, the service companies shall submit all questions of doubtful interpretation of the prescribed accounting to the Division of Corporate Regulation or its successor for consideration and decision.

BALANCE SHEET ACCOUNTS: ASSETS AND OTHER DEBIT ACCOUNTS

1. SERVICE COMPANY PROPERTY

§ 256.101 Service company property.

This account shall include the cost of service company property included in accounts 301 and 303 through 311 prescribed herein.

§ 256.107 Construction work in progress.

This account shall include the total of the balances of work orders for service company property in process of construction. Work orders shall be cleared from this account as soon as practicable after completion of the job.

§ 256.108 Accumulated provision for depreciation and amortization of service company property.

(a) This account shall be credited with the amount charged to account 403, Depreciation and amortization expense.

(b) At the time of retirement of depreciable service company property, this account shall be charged with the book cost of the property retired and the cost of removal, and shall be credited with the salvage value and any other amounts recovered, such as insurance, unless the company maintains costs and related reserves for specific units or types of property.

(c) Individual subaccounts for each classification of property listed under account 101, Service company property, shall be maintained.

2. INVESTMENTS

§ 256.123 Investment in associate companies.

This account shall only include notes receivable, advances, and other balances in open accounts with associate companies, which are not subject to current settlement.

§ 256.124 Other investments.

This account shall include the cost or current value of investments, whichever is less, in securities, club memberships, associations, life insurance policies for employees, or other investments in nonassociate companies, other than account 136, Temporary cash investments. This account shall not be used for advances to associate companies. The account shall be maintained in such manner as to show by subaccounts, or otherwise, the nature and amount of each investment.

3. CURRENT AND ACCRUED ASSETS

§ 256.131 Cash.

This account shall include the amount of current cash funds except working funds.

§ 256.134 Special deposits.

This account shall include deposits with fiscal agents or others for special purposes. Entries to this account shall specify the purpose for which the deposit is made.

§ 256.135 Working funds.

This account shall include cash advanced to officers, agents, employees and others as petty cash or working funds.

§ 256.136 Temporary cash investments.

This account shall include the cost of investments, such as demand and time loans, bankers' acceptances, United States Treasury obligations, marketable securities, and other similar investments, acquired for the purpose of temporarily investing cash.

§ 256.141 Notes receivable.

This account shall include the cost of all notes receivable and similar evidences of amounts due within one year from persons other than associate companies. The account shall be so maintained as to show separately amounts due from officers, directors, employees and others.

§ 256.143 Accounts receivable.

This account shall include amounts due on open accounts, other than amounts due from associate companies.

§ 256.144 Accumulated provision for uncollectable accounts.

This account shall be credited with amounts provided for losses on notes and accounts receivable which may become uncollectable, and also with collections on accounts previously charged hereto.

§ 256.146 Accounts receivable from associate companies.

This account shall include notes and balances in open accounts due from associate companies which are expected to be paid in full within one year.

NOTE.—Occasional payments to accommodate an associate company for emergency purposes or where obvious increased cost or time problems would be incurred shall be included in this account, but shall be segregated in a subaccount. Expenditures which do not pertain to performance of services by the service company shall be paid directly by the associate company.

§ 256.152 Fuel stock expenses undistributed.

The service company shall utilize this account, where appropriate, to include the cost of service company labor and of office supplies used and operating expenses incurred with respect to the review, analysis and management of fuel supply contracts or agreements, the accumulation of fuel information and its interpretation, the logistics and handling of fuel, and other related support functions, as a service to the associate company engaged in the procurement and transportation of fuel. This account shall be maintained to show the expenses attributable to each associate company through the use of work orders. All expenses of a service company's fuel department or functions shall be cleared through this account.

§ 256.154 Materials and supplies.

(a) The service company may utilize this account, where appropriate, to include the costs of materials and supplies held for use by the service company in performing its services. The cost of material and supplies attributable to work orders for service company property in process of construction shall be charged to account 107, Construction work in progress.

(b) Materials and supplies issued shall be credited hereto and charged to the appropriate expense or other accounts on the basis of a unit price determined by the use of cumulative average, first-in-first-out, or such other method of inventory accounting as conforms with generally accepted accounting standards consistently applied.

§ 256.163 Stores expense undistributed.

(a) The service company shall utilize this account, where appropriate, to include the service cost of labor and expenses incurred with respect to centralized procurement activities rendered to associate or nonassociate companies.

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(b)(1) Supervision of purchasing and stores department to extent assignable to materials handled through stores.

(2) Purchasing department activities in checking material needs, investigating sources of supply, analyzing prices, preparing and placing orders, and related activities to extent applicable to materials handled through stores.

(3) Unloading from shipping facility and putting in storage.

(4) Inspecting and testing materials and supplies when not assignable to specific items.

(5) Keeping stock records, including recording and posting of material receipts and issues and maintaining inventory record of stock.

(6) Communication service.

(7) Cash and other discounts not practically assignable to specific materials, freight, express, etc., when not assignable to specific items, transportation expense, and excise and other similar taxes not assignable to specific materials.

(c) This account shall be maintained to show the expenses attributable to each associate company through the use of work orders. All expenses of a service company's centralized procurement activities shall be cleared through this account.

(d) Any amounts applicable to fuel costs should be included in account 152, Fuel stock expenses undistributed.

§ 256.165 Prepayments.

This account shall include amounts representing prepayments of insurance, rents, taxes, interest and miscellaneous items, and appropriate subaccounts shall be maintained in respect of each class of prepayment.

§ 256.174 Miscellaneous current and accrued assets.

This account shall include the cost of all other current and accrued assets not provided for elsewhere. The records supporting this account shall be maintained so as to show the nature of each asset included herein.

4. DEFERRED DEBITS

§ 256.181 Unamortized debt expense.

This account shall include expenses related to the issuance or assumption of debt securities. Amounts recorded in this account shall be amortized over the life of each respective issue under a plan which will distribute the amount equitably over the life of the security. The amortization shall be on a monthly basis, and the amounts thereof shall be charged to account 431, Other interest expense.

§ 256.184 Clearing accounts.

This account shall include undistributed balances in clearing accounts at the date of the balance sheet. Balances shall be substantially cleared not later than the end of the calendar year.

§ 256.186 Miscellaneous deferred debits.

This account shall include all debits not provided for elsewhere, such as the costs of service performed which have not been billed to associate or nonassociate companies and unusual or extraordinary expenses, not included in other accounts, and items the proper final disposition of which is uncertain. The records supporting the entries to this account shall be so kept that the service company can furnish full information as to the purpose, monthly balance, status, write-off and duration of each deferred debit.

§ 256.188 Research, development, or demonstration expenditures.

(a) The service company shall utilize this account, where appropriate, for the cost of all expenditures for research, development or demonstration undertaken by or sponsored through the service company. To the extent such costs are incurred for customers, or for construction work in progress, this account will serve as a clearing account to identify the total research and development activity.

(b) All cost shall be transferred from this account by the end of each fiscal year.

(c) This account shall be so maintained as to show separately each project along with complete detail of the nature and purpose of the research, development and demonstration project together with the related costs.

§ 256.190 Accumulated deferred income taxes.

(a) This account shall be debited and account 411, Provision for deferred income taxes—credit, or account 421, Miscellaneous income or loss, as appropriate, shall be credited with an amount equal to that by which income taxes payable for the year are higher because of the inclusion of certain items in income for tax purposes, which items for general accounting purposes will not be fully reflected in the service company's determination of annual net income until subsequent years.

(b) This account shall be credited and account 410, Provision for deferred income taxes, or account 421, Miscellaneous income or loss, as appropriate, shall be debited with an amount equal to that by which income taxes payable for the year are lower because of prior payment of taxes as provided by paragraph (a) of this section, because of difference in timing for tax purposes of particular items of income or income deductions from that recognized by the service company for general accounting purposes.

(c) Vintage year records with respect to entries to this account, as described above, and the account balance shall be so maintained as to show the factor of calculation with respect to each annual amount of the item or class of items for which deferred tax accounting by the service company is utilized.

LIABILITIES AND OTHER CREDIT ACCOUNTS

5. PROPRIETARY CAPITAL

§ 256.201 Common stock issued.

This account shall include the par or stated value of all common capital stock issued and outstanding.

§ 256.211 Miscellaneous paid-in capital.

This account shall include the balance of all other credits for paid-in capital which are not properly includable in the foregoing accounts.

§ 256.215 Appropriated retained earnings.

This account shall include the amount of retained earnings which has been appropriated or set aside for specific purposes. Separate subaccounts shall be maintained under such titles as will designate the purpose for which each appropriation was made.

§ 256.216 Unappropriated retained earnings.

This account shall include the balance, either debit or credit, arising from earnings. All dividends shall be charged to this account. It shall not include amounts properly includable in account 211—Miscellaneous paid-in capital. Entries to this account shall be sufficiently detailed for ready analysis of the account.

6. LONG-TERM DEBT

§ 256.223 Advances from associate companies.

This account shall include the principal amount of notes and balances on open accounts due to associate companies. It does not include notes and open accounts representing indebtedness subject to current settlement which are includable in account 233, Notes payable to associate companies or account 234, Accounts payable to associate companies.

NOTE.—Subaccounts shall be maintained for each class of obligation, and records shall be maintained to show for each class the terms of the obligation, including the date of obligation, date of maturity, interest dates and rates, and security, if any.

§ 256.224 Other long-term debt.

This account shall include all long-term debt to nonassociates and not subject to current settlement.

NOTE.—Subaccounts shall be maintained for each class of obligation, and records shall be maintained to show for each class the terms of the obligation, including the date of obligation, date of maturity, interest dates and rates, and security, if any.

§ 256.225 Unamortized premium on long-term debt.

(a) This account shall include the excess of the cash value of consideration received over the face value upon the issuance or assumption of long-term debt securities.

(b) Amounts recorded in this account shall be amortized over the life of each respective issue under a plan which will distribute the amount equitably over the life of the security. The amortization shall be on a monthly basis, with the amounts thereof to be credited to account 427, Interest on long-term debt, or account 431, Other interest expense.

§ 256.226 Unamortized discount on long-term debt-debit.

(a) This account shall include the excess of the face value of long-term debt securities over the cash value of consideration received therefor, related to the issue or assumption of all types and classes of debt.

(b) Amounts recorded in this account shall be amortized over the life of the respective issues under a plan which will distribute the amount equitably over the life of the securities. The amortization shall be on a monthly basis, with the amounts thereof charged to account 427, Interest on long-term debt, or account 431, Other interest expense.

7. CURRENT AND ACCRUED LIABILITIES

§ 256.231 Notes payable.

This account shall include the face value of all notes, drafts, acceptances, or other similar evidences of indebtedness, payable on demand or within a time not exceeding one year from date of issue, to other than associate companies.

§ 256.232 Accounts payable.

This account shall include all amounts payable by the service company within one year other than amounts payable to associate companies.

§ 256.233 Notes payable to associate companies.

§ 256.234 Accounts payable to associate companies.

These accounts shall include notes and balances in open accounts due to associate companies within one year.

§ 256.236 Taxes accrued.

(a) This account shall be credited with the amount of taxes accrued during the accounting period, corresponding debits being made to the appropriate accounts for tax charges. Such credits may be based upon estimates, but from time to time during the year as the facts become known the amount of the periodic credits shall be adjusted so as to include as nearly as can be determined in each year the taxes applicable thereto. Any amount representing a prepayment of taxes applicable to the period subsequent to the date of the balance sheet shall be shown under account 165, Prepayments.

(b) The records supporting the entries to this account shall be kept so as to show for each class of taxes the amount accrued, the basis for the accrual, the accounts to which charged, and the amount of tax paid.

§ 256.237 Interest accrued.

This account shall include the amount of interest accrued on all liabilities of the service company. Supporting records shall be maintained so as to show the amount of interest accrued on each obligation.

§ 256.238 Dividends declared.

This account shall include the amount of dividends which have been declared but not paid.

§ 256.241 Tax collections payable.

This account shall include the amount of taxes collected by the service company through payroll deductions or otherwise pending transmittal of such taxes to the proper taxing authority.

§ 256.242 Miscellaneous current and accrued liabilities.

This account shall include the amount of all other current and accrued liabilities not provided for elsewhere. The records supporting this account shall be maintained so as to show the nature of each liability included herein.

8. DEFERRED CREDITS

§ 256.253 Other deferred credits.

This account shall include advance billings and receipts and other deferred credit items, not provided for elsewhere, including amounts which cannot be entirely cleared or disposed of until additional information has been received. Subaccounts by category of credits should be established.

§ 256.255 Accumulated deferred investment tax credits.

(a) This account shall be credited and account 411.5, Investment tax credit, debited with investment tax credits deferred by companies which do not apply such credits as a reduction of the overall income tax expense in the year in which a tax credit is realized. A proportionate amount shall be debited to account 411.5, Investment tax credit, as determined in relation to the average useful life of service company property to which the tax credit relates or such lesser period of time as may be adopted.

(b) Records shall be maintained identifying the service company property giving rise to the investment tax credits for each year with the weighted-average service life of such properties and any unused balances of such credits. Such records are not necessary unless the tax credits are deferred.

9. ACCUMULATED DEFERRED INCOME TAXES

§ 256.282 Accumulated deferred income taxes.

(a) The text of these accounts is designed primarily to cover deferrals of Federal income taxes. However, they are also to be used when making deferrals of state and local income taxes. Service companies which have service company property and which have deferred taxes on income with respect thereto shall separately classify such deferrals in the accounts provided below so as to allow ready identification.

(b) This account shall be credited and account 410, Provision for deferred incomes taxes, shall be debited with tax effects related to property described in paragraph (a) of this section where taxable income is lower than pretax accounting income due to differences between the periods in which revenue and expense transactions affect taxable income and the periods in which they enter into the determination of pretax accounting income.

(c) This account shall be debited and account 411, Provision for deferred income taxes—credit, shall be credited with tax effects related to property described in paragraph (a) of this section where taxable income is higher than pretax accounting income due to differences between the periods in which revenue and expense transactions affect taxable income and the periods in which they enter into the determination of pretax accounting income.

(d) Records with respect to entries to this account, as described above, and the account balance shall be so maintained as to show the factors of calculation and the separate amounts applicable to the additions of each vintage year for each class, group, or unit. The underlying calculations to segregate and associate deferred tax amounts with the respective vintage years may be based on reasonable methods of approximation, if necessary, consistently applied.

SERVICE COMPANY PROPERTY ACCOUNTS

Sec.
256.301 Organization.
256.303 Miscellaneous intangible plant.
256.304 Land and land rights.
256.305 Structures and improvements.
256.306 Leasehold improvements.
256.307 Equipment.
256.308 Office furniture and equipment.
256.309 Automobiles, other vehicles and related garage equipment.
256.310 Aircraft and airport equipment.
256.311 Other service company property.

§ 256.301 Organization.

This account shall include all fees paid to federal or state governments for the privilege of incorporation and expenditures incident to organizing a corporation or other form of organization and putting it into readiness to do business including cost of obtaining certificates authorizing the service company to engage in its business, fees and expenses for incorporation, fees and expenses for mergers or consolidations, office expenses incident to organizing the service company, and other expenditures incident to the organization of the service company such as stock, minute books and corporate seal.

NOTE.—This account shall not include any discounts upon securities issued or assumed nor shall it include any costs or expenses in connection with the authorization, issuance and sale of securities of the service company.

§ 256.303 Miscellaneous intangible plant.

(a) This account shall include the cost of patent rights, licenses, privileges, and other intangible property necessary or valuable in the conduct of the service company's operations and not specifically chargeable to any other account.

(b) This account shall be maintained in such a manner that the service company can furnish full information with respect to the amounts included herein.

NOTE.—When any item included in this account is retired or expires, the book cost thereof shall be credited hereto and charged to account 426.5, Other deductions.

§ 256.304 Land and land rights.

(a) This account shall include the cost of any right, title, or interest to land held by the service company, including without limitation the cost of land owned in fee by the service company and the cost of easements, rights of way, and any other similar interests in land.

(b) When special assessments for improvements provide for deferred payments, the full amount of the assessments shall be charged to the appropriate land account and the unpaid balance shall be carried in an appropriate liability account. Interest on unpaid balances shall be charged to the appropriate interest account. If any part of the cost of improvement is included in the general tax levy, the amount thereof shall be charged to the appropriate tax account.

(c) Separate entries shall be made for the acquisition, transfer, or sale of each parcel of land, and each land right. A record shall be maintained showing the nature of ownership, full legal description, area, map reference, purpose for which used, city, county and tax district in which situated, from whom purchased or to whom sold, payment given or received, other costs, contract date and number, date of recording of deed, and book and page number of record.

(d) If at the time of acquisition of an interest in land such interest extends to buildings or other improvements which are then devoted to the service company's operations, the land and improvements shall be separately appraised and the cost allocated to land and buildings or improvements on the basis of the appraisals. If the improvements are removed or wrecked without being used in operations, the cost of removing or wrecking shall be charged and the salvage credited to the account in which the cost of the land is recorded.

§ 256.305 Structures and improvements.

(a) This account shall include the cost of all buildings and facilities and fixtures permanently attached thereto which are owned by the service company.

(b) The cost of foundations which are specially provided for machinery, apparatus, or other equipment of the company shall be charged to the same account as the cost of such machinery, apparatus, or equipment.

(c) Other fixtures temporarily attached to buildings shall not be included in the cost of the building but in the equipment account.

§ 256.306 Leasehold improvements.

This account shall include all costs incurred by the service company in improvements of, remodeling of, or installation of additional facilities in rented offices or buildings to suit tenant's needs.

§ 256.307 Equipment.

This account shall include the cost of equipment owned by the service company and used in rendering services such as micro-wave, communications and dispatching, automatic data processing, information storage and retrieval, research and laboratory testing, construction, meter repairing, and printing and stationery. Subaccounts shall be maintained by classes of equipment for each service rendered.

§ 256.308 Office furniture and equipment.

This account shall include the cost of office furniture and equipment owned by the service company and used in rendering services, e.g., bookcases, shelves, desks, tables, chairs, desk equipment, safes, drafting-room equipment, filing cabinets, storage and other cabinets, floor covering, library equipment, accounting machines, electronic claculators, typewriters and other mechanical office equipment.

§ 256.309 Automobiles, other vehicles, and related garage equipment.

This account shall include the delivered cost of all service company owned automobiles, vans, trucks, and other vehicles used by the service company in its operations. The cost of all tools, implements, and other equipment used in the inspection, maintenance, repair and overhaul of vehicles shall also be included in this account.

§ 256.310 Aircraft and airport equipment.

This account shall include the delivered cost of all service company owned aircraft and accessories thereto used by the service company in its operations. The cost of all tools, implements and other equipment used in the inspection, maintenance, repair and overhaul of aircraft shall also be included in this account.

§ 256.311 Other service company property.

(a) This account shall include the cost of service company property owned by the service company not provided for elsewhere.

(b) This account shall be maintained in such a manner that the service company can furnish full information with respect to the amounts included herein.

INCOME AND EXPENSE ACCOUNTS

1. INCOME

§ 256.457 Services rendered to associate companies.

This control account shall include amounts billed to associate companies for services rendered at cost. See accounts 457-1 through 457-3. Overbillings or underbillings arising from adjustments of estimated costs to actual costs shall be cleared through this account and concurrent adjustments made to other accounts involved.

§ 256.457-1 Direct costs charged to associate companies.

This account shall include those direct costs which can be identified through a work order system as being applicable to services performed for associate companies. This account shall not include any compensation for use of equity capital or intercompany interest on indebtedness.

§ 256.457-2 Indirect costs charged to associate companies.

This account shall include recovery of those indirect costs which cannot be separately identified to a single or group of associate companies and therefore must be allocated. Journal or memorandum entries should be prepared monthly, by departments, for all such cost accumulated and billed to customers. This account shall not include any compensation for use of equity capital or intercompany interest on indebtedness.

§ 256.457-3 Compensation for use of capital-associate companies.

This account shall include only the portion of compensation for use of equity capital and intercompany interest on indebtedness before income taxes which is properly allocable to services rendered to each associate company.

§ 256.458 Services rendered to nonassociate companies.

This account shall include amounts billed for services rendered to nonassociate persons. See accounts 458-1 through 458-4.

§ 256.458-1 Direct costs charged to nonassociate companies.

This account shall include those direct costs which can be identified through a work order system as being applicable to services performed for nonassociate persons. This account shall not include any compensation for use of equity capital or interest on indebtedness.

§ 256.458-2 Indirect costs charged to nonassociate companies.

This account shall include recovery of those indirect costs of services performed for nonassociate persons which cannot be separately identified to nonassociate persons and therefore must be allocated. The amounts would be as set forth in the same monthly departmental journal or memorandum entries referred to for these costs in account 457-2, Indirect costs charged to associated companies. This account shall not include any compensation for use of equity capital or intercompany interest on indebtedness.

§ 256.458-3 Compensation for use of capital—nonassociate companies.

This account shall include only the portion of compensation for use of equity capital and intercompany interest on indebtedness before income taxes which is properly allocable to services rendered to nonassociate persons. A statement to support the basis for the compensation and how it was calculated should be attached to a separate journal entry, ledger system, or memorandum file.

§ 256.458-4 Excess or deficiency on servicing nonassociate companies.

This account shall include the amount by which the aggregate price received for services rendered to nonassociate persons differs from the sum of the total direct and indirect costs and compensation for use of capital which are properly allocable to such services. (Accounts 458-1 through 458-3).

§ 256.421 Miscellaneous income or loss.

This account shall include all income or loss items not provided for elsewhere. All income items in this account shall be credited to the associate companies on the ratio of total direct and indirect charges billed. All loss items in this account shall be billed to the parent holding company.

2. EXPENSE

§ 256.920 Salaries and wages.

(a) This account shall include salaries, wages, bonuses and other consideration for services, with the exception of director's fees paid directly to officers and employees of the service company.

(b) This account shall be supported by time records and appropriately referenced to detailed records subdividing salaries and wages by departments or other functional organization units. See General Instructions.

§ 256.921 Office supplies and expenses.

(a) This account shall include office supplies and expenses incurred in connection with the general administration of service company operations assignable to specific administrative or general departments and not specifically provided for in other accounts. This includes the expenses of the various administrative and general departments, the salaries and wages of which are includable in account 920.

(b) This account may be subdivided in accordance with a classification appropriate to the departmental or other functional organization of the service company.

ITEMS

1. Automobile service, including charges through clearing account.
2. Bank messenger and service charges.
3. Books, periodicals, bulletins and subscriptions to newspapers, newsletters, tax service, etc.
4. Building service expenses for customer accounts, sales, and administrative and general purposes.
5. Communication service expenses to include telephone, telegraph, wire transfer, micro-wave, etc.
6. Cost of individual items of office equipment used by general departments which are of small value or short life.
7. Membership fees and dues in trade, technical, and professional associations paid by a utility for employees. (Company memberships are includable in account 930.2, Miscellaneous general expenses.)
8. Office supplies and expenses.
9. Payment of court costs, witness fees, and other expenses of legal department.
10. Postage, printing and stationery.
11. Meals, traveling, entertainment and incidental expenses.

(c) Records shall be so maintained to permit ready analysis by item showing the nature of the expense and identity of the person furnishing the service.

§ 256.922 Administrative expenses transferred—credit.

This account shall be credited with administrative expenses recorded in accounts 920 and 921 which are transferred to construction costs of the asset and other debit accounts.

§ 256.923 Outside services employed.

(a) This account shall include the fees and expenses of professional consultants and others for general services with the exception of fees and expenses for outside services of account 928, Regulatory commission expense, and account 930.1, General advertising expenses. Separate subaccounts shall be provided for auditing, legal, engineering, management consulting fees and, if material in amount, any other fees of professional or outside services.

(b) Records shall be so maintained to permit ready analysis showing nature of service, identity of the person furnishing the service, affiliation to the service company, and, if allocated to more than one company, the specific method of allocation.

§ 256.924 Property insurance.

(a) This account shall include the cost of insurance premiums to protect the service company against losses and damages to owned or leased property used in its operations. Recoveries from insurance companies or others for property damages shall be credited to the account charged with the cost of the damage. If the damaged property has been retired, the credit shall be to the appropriate account for accumulated provision for depreciation.

(b) Records shall be kept so as to show the amount of coverage for each class of insurance carried, the property covered, and the applicable premiums. Any dividends distributed by mutual insurance companies shall be credited to the accounts to which the insurance premiums were charged.

§ 256.925 Injuries and damages.

(a) This account shall include the cost of premiums for insurance to protect the service company against claims for injury, liability and damage claims of employees or others and losses of such character not covered by outside insurance.

(b) Reimbursements from insurance companies or others for expenses charged hereto on account of injuries and damages and insurance dividends or refunds shall be credited to this account.

§ 256.926 Employee pensions and benefits.

This account shall include pensions paid to or on behalf of retired employees, or payments for the purchase of annuities for this purpose, when the service company has committed itself to a pension plan under which the pension funds are devoted to pension purposes. This account shall also include payments made under employee benefit programs such as medical and surgical benefits, disability benefits, life insurance, savings and thrift plans, and other similar benefits. Include, also, expenses incurred in medical, educational or recreational activities for the benefit of employees.

§ 256.928 Regulatory commission expense.

This account shall include all expenses, properly includable in service company operating expenses, incurred by the service company in connection with formal cases before regulatory commissions, or other regulatory bodies, on its own behalf or on behalf of associated companies, including payments made to a regulatory commission for fees assessed to the service company for pay and expenses of such commission, its officers, agents and employees, and for filings or reports made under regulations of regulatory commissions. The service company shall be prepared to show the cost of each formal case.

§ 256.930.1 General advertising expenses.

This account shall include the cost of materials used and expenses incurred in advertising and related activities, the costs of which by their content and purpose are not provided for elsewhere.

ITEMS

1. Advertising in newspapers, periodicals, billboards, radio, etc.
2. Advertising matter such as posters, bulletins, booklets and related items.
3. Fees and expenses of advertising agencies and commercial artists.
4. Postage and direct mail advertising.
5. Printing of booklets, dodgers, bulletins, etc.
6. Supplies and expenses in preparing advertising materials.
7. Office supplies and expenses.

§ 256.930.2 Miscellaneous general expenses.

(a) This account shall include the cost of expenses incurred in connection with the general management of the service company not provided for elsewhere.

ITEMS

1. Industry association dues for company memberships.
2. Contributions for conventions and meetings of the industry.
3. Communication service not chargeable to other accounts.
4. Trustee, registrar, and transfer agent fees and expenses.
5. Stockholders meeting expenses.
6. Dividend and other financial notices.
7. Printing and mailing dividend checks.
8. Directors' fees and expenses.
9. Publishing and distributing annual reports to stockholders.
10. Public notices of financial, operating and other data required by regulatory statutes, not including, however, notices required in connection with security issues or acquisitions of property.
11. Other general expenses not provided for elsewhere.

(b) Records shall be so maintained to permit ready analysis by item showing the nature of the expense and identity of the person furnishing the service.

§ 256.931 Rents.

This account shall include rents, including taxes, paid for the property of others used, occupied or operated in connection with service company functions. Provide subaccounts for major grouping such as office space, warehouses, other structure, office furniture, fixtures, computers, data processing equipment, micro-wave and telecommunication equipment, airplanes, automobiles, etc. The cost, when incurred by the lessee, of operating and maintaining leased property, shall be charged to the accounts appropriate for the expense as if the property were owned.

§ 256.932 Maintenance of structures and equipment.

This account shall include materials used and expenses incurred in the maintenance of property owned, the cost of which is includable in accounts 305 through 311, and of property leased from others. Provide subaccounts by major classes of structures and equipment, owned and leased.

§ 256.403 Depreciation and amortization expense.

This account shall include the amount of depreciation and amortization for all service plant, and leasehold improvements, the cost of which is includable in accounts 305 through 311. Provide subaccounts by each class of service company property owned and leased.

§ 256.408 Taxes other than income taxes.

(a) This account shall include the amount of state unemployment insurance, franchise taxes, federal excise taxes, social security taxes, and all other taxes assessed by Federal, State, County, Municipal, or other local governmental authorities, except income taxes.

(b) When it is not possible to determine the exact amount of taxes, the amount shall be estimated and adjustments made in current accruals as the actual tax levies become known.

(c) This account shall be kept in such manner as to show the amount of each class of taxes.

NOTE A.—Taxes applicable to property construction or investments may be charged to the account in which the property construction or investment is included. Special assessments for street and similar improvements shall be included in the appropriate service company property account. Gasoline and other miscellaneous taxes shall be charged, where practicable, to the same account as the materials on which the tax is levied.

NOTE B.—Interest on tax refunds or deficiencies shall not be included in this account but in account 421, Miscellaneous income or loss, or account 431, Other interest expense, as appropriate.

§ 256.409 Income taxes.

(a) This account shall include the amount of local, state and federal taxes on income properly accruable during the period covered by the income statement to meet the actual liability for such taxes. As the exact amount of taxes become known, the current tax accruals shall be adjusted accordingly so that this account, as nearly as can be ascertained, shall include the actual taxes payable which are chargeable to service company operations.

(b) Interest on tax refunds or deficiencies shall not be included in this account but in account 421, Miscellaneous income or loss, or account 431, Other interest expense, as appropriate.

§ 256.410 Provision for deferred income taxes.

This account shall be debited and Accumulated Deferred Income Taxes shall be credited with an amount equal to any deferral of taxes on income as provided by the text of account 282, Accumulated deferred income taxes. No entries required to be made to this account shall be netted against any credit amounts appropriately includable in account 411.

Provision for deferred income taxes—credit.

§ 256.411 Provision for deferred income taxes—credit.

This account shall be credited and Accumulated Deferred Income Taxes debited with an amount equal to the portion of taxes on income payable for the year which is attributable to a deferral of taxes on income in a prior year, in accordance with the plan of deferred tax accounting provided by the text of account 282, Accumulated deferred income taxes. No entries required to be made to this account shall be netted against any debit amount appropriately includable in account 410, Provision for deferred income taxes.

§ 256.411.5 Investment tax credit.

(a) This account shall be debited with the amounts of investment tax credits related to service company property that are credited to account 255, Accumulated deferred investment tax credits, by service companies which do not apply the entire amount of the benefits of the investment credit as a reduction of the overall income tax expense in the year in which such credit is realized (see account 255).

(b) This account shall be credited with the amounts debited to account 255 for proportionate amounts of tax credit deferrals allocated over the average useful life of property to which the tax credits relate or such lesser period of time as may be adopted by the service company.

§ 256.426.1 Donations.

This account shall include all payments or donations for charitable, social or community welfare purposes.

§ 256.426.5 Other deductions.

(a) This account shall include other miscellaneous expenses which are nonoperating in nature but which are properly deductible before determining total income before interest charges.

(b) Records shall be so maintained by subaccount to permit ready analysis showing the nature of the expenses and identity of the person furnishing the service.

NOTE.—Preliminary survey and investigation expenses related to abandoned projects, when not written-off to the appropriate operating expense account, shall be included in this account.

§ 256.427 Interest on long-term debt.

This account shall include the amount of interest accrued on outstanding long-term debt owed by the service company to nonassociate persons.

§ 256.430 Interest on debt to associate companies.

This account shall include interest accrued on amounts included in account 223, Advances from associate companies, and account 233, Notes payable to associate companies. The records supporting the entries to this account shall be so kept as to show to whom the interest is to be paid, the period covered by the accrual, the rate of interest and the principal amount of the advances or other obligations on which the interest is accrued. Separate subaccounts should be maintained for each related debt account.

§ 256.431 Other interest expense.

This account shall include all interest charges not provided for elsewhere.

By the Commission.

GEORGE A. FITZSIMMONS,
Secretary.

FEBRUARY 2, 1979.

[FR Doc. 79-4485 Filed 2-8-79; 8:45 am]

[4110-03-M]

Title 21—Food and Drugs

CHAPTER I—FOOD AND DRUG ADMINISTRATION, DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE

SUBCHAPTER E—ANIMAL DRUGS, FEEDS, AND RELATED PRODUCTS

PART 544—OLIGOSACCHARIDE CERTIFIABLE ANTIBIOTIC DRUGS FOR ANIMAL USE

Dihydrostreptomycin Injection

AGENCY: Food and Drug Administration.

ACTION: Final rule.

SUMMARY: The animal drug regulations are amended to reflect approval of a supplemental new animal drug application (NADA) providing revised labeling for use of dihydrostreptomycin sulfate injection for treatment of leptospirosis in dogs, horses, cattle, and swine. The supplement was filed by Maurry Biological Co., Inc., to reflect the National Academy of Sciences/National Research Council (NAS/NRC), Drug Efficacy Study Group review of the product.

EFFECTIVE DATE: February 9, 1979.

FOR FURTHER INFORMATION CONTACT:

Donald A. Gable, Bureau of Veterinary Medicine (HFV-100), Food and Drug Administration, Department of Health, Education, and Welfare, 5600 Fishers Lane, Rockville, MD 20857, 301-443-4313.

SUPPLEMENTARY INFORMATION:

Certain injectable drugs containing dihydrostreptomycin and/or streptomycin were subject of a NAS/NRC review. Notice of the NAS/NRC review was published in the FEDERAL REGISTER of July 1, 1970 (35 FR 10698). FDA concurred with the NAS/NRC evaluation that the products are probably effective for treatment of certain diseases in cattle, horses, swine, dogs, cats, and turkeys, when such disease conditions are caused by pathogens sensitive to streptomycin sulfate and/or dihydrostreptomycin sulfate. Additionally, the notice enumerated several NAS/NRC labeling recommendations, provided 6 months for submission of adequate documentation in support of the labeling used, and requested each holder of an NADA effective before October 10, 1962 to submit updating information regarding drug components and composition, and also to submit information regarding manufacturing methods, facilities, and controls, in accordance with requirements of section 512 of the Federal Food, Drug, and Cosmetic Act.

Maurry Biological Co., Inc., 6109 S. Western Ave., Los Angeles, CA 90047, is sponsor of NADA 65-013V for a 500-milligram-per-milliliter dihydrostreptomycin base (as sulfate) injection. The product was among those evaluated by NAS/NRC in the July 1, 1970 notice. Maurry's response to the notice is mentioned in a followup notice and opportunity for hearing published in the FEDERAL REGISTER of June 27, 1978 (43 FR 27894). The followup notice stated that, having reviewed NAS/NRC reports, studies submitted by Maurry (two reprints of published studies), and other published materials, the Director of the Bureau of Veterinary Medicine concluded that dihydrostreptomycin injection is effective in treatment of leptospirosis in dogs, horses, cattle, and swine. Additionally, the notice invited sponsors of currently approved NADA's for the drug to submit supplements to revise their labeling to limit the claims and present the conditions of use substantially as presented in the notice's model insert.

Through a series of submissions, Maurry has provided efficacy data; revised its labeling to be in accord with the labeling conditions described in the June 27, 1978 notice of opportunity for hearing; and provided updating information regarding drug components and composition and manufacturing methods, facilities, and controls. On the basis of these submissions, Maurry's NADA for dihydrostreptomycin sulfate injection is in compliance with NAS/NRC and FDA recommendations, and its NAS/NRC rating is upgraded from probably effective to effective. This action does not constitute reaffirmation of the safety of residues resulting from use of this drug.

Submission of applications for identical products having the same conditions of use that are identified by a footnote in the regulations need not include efficacy data as specified by § 514.1(b)(8)(ii) or § 514.111(a)(5)(vi) of the animal drug regulations (21 CFR § 514.1(b)(8)(ii) or § 514.111(a)(5)(vi)). In lieu of such data, approval may require bioequivalency or similar data as suggested in the guidelines for submitting NADA's for NAS/NRC reviewed generic drugs. These guidelines are available in the office of the Hearing Clerk (HFA-305), Food and Drug Administration, Room 4-65, 5600 Fishers Lane, Rockville, MD 20857.

Because this application was approved before July 1, 1975, a summary of safety and effectiveness data and information submitted in accordance with § 514.11(e)(2)(ii) (21 CFR 514.11(e)(2)(ii)) to support approval of this application is not required.

Therefore, under the Federal Food, Drug, and Cosmetic Act (sec. 512(i), 82 Stat. 347 (21 U.S.C. 360b(i))) and under authority delegated to the Commisioner of Food and Drugs (21 CFR 5.1) and redelegated to the Director of the Bureau of Veterinary Medicine (21 CFR 5.83), § 544.274 is amended by adding new paragraph (c) to read as follows:

§ 544.274 Streptomycin sulfate/dihydrostreptomycin sulfate/crystalline dihydrostreptomycin sulfate injectable.

* * * * *

(c) *Conditions of marketing*—(1) *Specifications.* Dihydrostreptomycin sulfate injection contains 500 milligrams of dihydrostreptomycin (as the sulfate) per milliliter of sterile aqueous solution and conforms to the requirements of paragraph (a) of this section.

(2) *Sponsor.* See No. 010719 in § 510.600(c) of this chapter.

(3) *Conditions of use*—(i) *Amount.* 5 milligrams per pound of body weight every 12 hours.[1]

(ii) *Indications for use.* Treatment of leptospirosis in dogs and horses due to *Leptospira canicola, L. icterohemorrhagiae,* and *L. pomona;* in cattle due to *L. pomona;* and in swine due to *L. pomona* and *L. grippotypohosa.*[1]

(iii) *Limitations.*[1] Administer by deep intramuscular injection only. Treatment should be continued for 3 to 5 days or until the urine is free of leptospira for at least 72 hours as measured by darkfield microscopic examination. Treatment with subtherapeutic dosages, excessive duration of therapy, or inappropriate use of this antibiotic may lead to the emergence of streptomycin or dihydrostreptomycin resistant organisms. In the recommended doses, dihydrostreptomycin causes few unfavorable reactions, but large doses or prolonged use can cause signs of kidney irritation, dizziness, and loss of sense of balance or deafness, as a result of the toxic effect on the eighth cranial nerve. Subcutaneous injections may lead to inflammatory reactions; therefore, the drug should not be administered by this route. The use of this drug must be discontinued for 30 days before treated animals are slaughtered for food. The drug is not for use in animals producing milk because use of the drug will result in contamination of the milk. Federal law restricts this drug to use by or on the order of a licensed veterinarian.

Effective date. This regulation is effective February 9, 1979.

(Sec. 512(i), 82 Stat. 347 (21 U.S.C. 360b(i)).)

Dated: January 26, 1979.

LESTER M. CRAWFORD,
Director, Bureau of Veterinary Medicine.

[FR Doc. 79-4278 Filed 2-8-79; 8:45 am]

[4210-01-M]

Title 24—Housing and Urban Development

CHAPTER X—FEDERAL INSURANCE ADMINISTRATION

SUBCHAPTER B—NATIONAL FLOOD INSURANCE PROGRAM

[Docket No. FI-4464]

PART 1917—APPEALS FROM PROPOSED FLOOD ELEVATION DETERMINATIONS

Final Flood Elevation Determination for the City of Scandia, Republic County, Kans.

AGENCY: Federal Insurance Administration, HUD.

ACTION: Final rule.

SUMMARY: Final base (100-year) flood elevations are listed below for selected locations in the City of Scandia, Republic County, Kansas. These base (100-year) flood elevations are the basis for the flood plain management measures that the community is required to either adopt or show evidence of being already in effect in order to qualify or remain qualified for participation in the national flood insurance program (NFIP).

EFFECTIVE DATE: The date of issuance of the flood insurance rate map (FIRM), showing base (100-year) flood elevations, for the City of Scandia, Republic County, Kansas.

ADDRESS: Maps and other information showing the detailed outlines of the flood-prone areas and the final elevations for the City of Scandia, Republic County, Kansas, are available for review at City Hall, Scandia, Kansas.

FOR FURTHER INFORMATION CONTACT:

Mr. Richard Krimm, Assistant Administrator, Office of Flood Insurance, Room 5270, 451 Seventh Street SW., Washington, D.C. 20410, 202-755-5581 or toll-free line 800-424-8872.

SUPPLEMENTARY INFORMATION: The Federal Insurance Administrator gives notice of the final determinations of flood elevations for the City of Scandia, Republic County, Kansas.

This final rule is issued in accordance with section 110 of the Flood Disaster Protection Act of 1973 (Pub. L. 93-234), 87 Stat. 980, which added section 1363 to the National Flood Insurance Act of 1968 (Title XIII of the Housing and Urban Development Act of 1968 (Pub. L. 90-448), 42 U.S.C. 4001-4128, and 24 CFR 1917.4(a)). An opportunity for the community or individuals to appeal this determination to or through the community for a period of ninety (90) days has been provided. No appeals of the proposed base flood elevations were received from the community or from individuals within the community.

The Administrator has developed criteria for flood plain management in flood-prone areas in accordance with 24 CFR Part 1910.

The final base (100-year) flood elevations for selected locations are:

Source of flooding	Location	Elevation in feet, national geodetic vertical datum
Republican River..	At First Street (extended).	1434
	Third Street (extended).	1435
	Approximately 300 feet downstream of U.S. Highway 36.	1436

(National Flood Insurance Act of 1968 (Title XIII of Housing and Urban Development Act of 1968), effective January 28, 1969 (33 FR 17804, November 28, 1968), as amended (42 U.S.C. 4001-4128); and Secretary's delegation of authority to Federal Insurance Administrator, 43 FR 7719.)

In accordance with section 7(o)(4) of the Department of HUD Act, Section 324 of the

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[1] These conditions are NAS/NRC reviewed and deemed effective. Applications for these uses need not include effectiveness data as specified by § 514.111 of this chapter but may require bioequivalency and safety information.

Housing and Community Amendments of 1978, P.L. 95-557, 92 Stat. 2080, this rule has been granted waiver of Congressional review requirements in order to permit it to take effect on the date indicated.

Issued: January 3, 1979.

Gloria M. Jimenez,
Federal Insurance Administrator.

[FR Doc. 79-4279 Filed 2-8-79; 8:45 am]

[4210-01-M]

[Docket No. FI-4513]

PART 1917—APPEALS FROM PROPOSED FLOOD ELEVATION DETERMINATIONS

Final Flood Elevation Determinations for the City of Rugby, Pierce County, N. Dak.

AGENCY: Federal Insurance Administration, HUD.

ACTION: Final rule.

SUMMARY: Final base (100-year) flood elevations are listed below for selected locations in the City of Rugby, Pierce County, North Dakota. These base (100-year) flood elevations are the basis for the flood plain management measures that the community is required to either adopt or show evidence of being already in effect in order to qualify or remain qualified for participation in the national flood insurance program (NFIP).

EFFECTIVE DATE: The date of issuance of the flood insurance rate map (FIRM), showing base (100-year) flood elevations, for the City of Rugby, North Dakota.

ADDRESS: Maps and other information showing the detailed outlines of the flood-prone areas and the final elevations for the City of Rugby, are available for review at City Hall, Rugby, North Dakota.

FOR FURTHER INFORMATION CONTACT:

Mr. Richard Krimm, Assistant Administrator, Office of Flood Insurance, Room 5270, 451 Seventh Street SW., Washington, D.C. 20410, 202-755-5581 or toll-free line 800-424-8872.

SUPPLEMENTARY INFORMATION: The Federal Insurance Administrator gives notice of the final determinations of flood elevations for the City of Rugby, North Dakota.

This final rule is issued in accordance with section 110 of the Flood Disaster Protection Act of 1973 (Pub. L. 93-234), 87 Stat. 980, which added section 1363 to the National Flood Insurance Act of 1968 (Title XIII of the Housing and Urban Development Act of 1968 (Pub. L. 90-448), 42 U.S.C. 4001-4128, and 24 CFR 1917.4(a)). An opportunity for the community or individuals to appeal this determination to or through the community for a period of ninety (90) days has been provided. No appeals of the proposed base flood elevations were received from the community or from individuals within the community.

The Administrator has developed criteria for flood plain management in flood-prone areas in accordance with 24 CFR Part 1910.

The final base (100-year) flood elevations for selected locations are:

Source of flooding	Location	Elevation in feet, national geodetic vertical datum
Rush Lake Tributary.	State Highway 3—20 feet*.	1530
	Main Avenue South—50 feet*.	1533
	Fifth Avenue—50 feet*...	1533
	Unnamed Road—20 feet*.	1535

*Upstream of centerline.

(National Flood Insurance Act of 1968 (Title XIII of Housing and Urban Development Act of 1968), effective January 28, 1969 (33 FR 17804, November 28, 1968), as amended (42 U.S.C. 4001-4128); and Secretary's delegation of authority to Federal Insurance Administrator, 43 FR 7719.)

In accordance with Section 7(o)(4) of the Department of HUD Act, Section 324 of the Housing and Community Amendments of 1978, P.L. 95-557, 92 Stat. 2080, this rule has been granted waiver of Congressional review requirements in order to permit it to take effect on the date indicated.

Issued: January 19, 1979.

Gloria M. Jimenez,
Federal Insurance Administrator.

[FR Doc. 79-4280 Filed 2-8-79; 8:45 am]

[7710-12-M]

Title 39—Postal Service

CHAPTER I—UNITED STATES POSTAL SERVICE

PART 601—PROCUREMENT OF PROPERTY AND SERVICES

Miscellaneous Amendments to Postal Contracting Manual

AGENCY: Postal Service.

ACTION: Final rule.

SUMMARY: The Postal Service hereby announces numerous miscellaneous revisions of the Postal Contracting Manual. The amendments will update the manual, clarify certain provisions, and make other editorial or technical changes.

EFFECTIVE DATE: February 29, 1979.

FOR FURTHER INFORMATION CONTACT:

William J. Jones, 202-245-4603.

SUPPLEMENTARY INFORMATION: The Postal Contracting Manual, which has been incorporated by reference in the Federal Register (see 39 CFR 601.100), has been amended by the issuance of Transmittal Letter 27, dated January 29, 1979.

In accordance with 39 CFR 601.105 notice of these changes is hereby published in the Federal Register as an amendment to that section and the text of the changes is filed with the Director, Office of the Federal Register. Subscribers to the basic Manual will receive these amendments from the Government Printing Office. (For other availability of the Postal Contracting Manual, see 39 CFR 601.104.)

Description of these amendments to the Postal Contracting Manual follows:

Section 1—General Provisions

1. Paragraph 1-11(b) has been revised to reference the current source document for the *Code of Ethical Conduct for Postal Employees.*

2. Paragraph 1-302.3 has been rewritten to provide greater depth of coverage to the subject of contracts between the Postal Service and its employees, including contracts of individual or corporate suretyship.

3. Paragraph 1-407.2(b)(2)(ii) has been rewritten to reflect an increase in the contracting authority that may be delegated to Procurement Services for minor repairs and improvements.

4. Paragraph 1-1108 has been added to incorporate policy with respect to contractor responsibilities on contracts performed at occupied postal premises.

Section 3—Purchase by Negotiations

5. Paragraph 3-410.2(a)(1) has been revised to delete an incorrect reference, and to add several new references.

Section 5—Special Sources of Supply

6. Paragraph 5-104(b) has been revised to correct the maximum dollar limitation for orders placed under Federal Supply Schedule Contracts utilizing imprest funds and bring it into conformance with the provisions of 6-108.5.

Section 6—Informal Purchases

7. Paragraph 6-111.2(b)(4)(ii) has been revised to clarify the fact that Form 4541, Contract Work Order-Invoice for Vehicle Repair, may not be used as a *call document* for vehicle

services against Form 7334, Order-Invoice-Voucher.

SECTION 7—CONTRACT CLAUSES

8. Paragraph 7-104.64 has been added to incorporate a new clause, *Performance at Occupied Postal Premises.*

9. Paragraph 7-104.69 has been revised for clarity and greater depth of coverage concerning the F.O.B. point for delivery of Postal Service-furnished property.

10. Paragraph 7-606.6 has been added to provide instructions for use of the new clause entitled *Performance at Occupied Postal Premises* prescribed in 7-104.64.

SECTION 10—BONDS AND INSURANCE

11. Paragraphs 10-104.1(a) and 10-1051(a) have been revised to reflect an amendment to the Miller Act requirements for payment and performance bonds.

SECTION 12—LABOR

12. Paragraph 12-301 has been revised to indicate that the clause entitled *Contract Work Hours and Safety Standards Act—Overtime Compensation* shall be included in certain basic ordering agreements and blanket purchase arrangements.

SECTION 16—PROCUREMENT FORMS

13. The following revised forms have been included in section 16 and shall be used immediately, where applicable:

(1) Form 7381, Feb. 1978—*Requisition for Supplies or Services.*

(2) Form 7394, Jan. 1978—*Vehicle Maintenance Pricing Proposal.*

Previous editions of the above forms are obsolete and should be destroyed.

SECTION 18—LEASING, CONSTRUCTION, AND ARCHITECT-ENGINEER SERVICES

14. Paragraph 18-301.2 has been revised to authorize use of the negotiated method of procurement for construcion contracts covering minor repairs and improvements where the estimated cost does not exceed $10,000.

15. Paragraph 18-302.2(b) has been revised to delete the requirement for a bid guarantee and performance and payment bonds on bids covering minor repairs and improvements where the estimated cost does not exceed $25,000, unless the contracting officer determines that one is necessary.

16. Paragraph 18-305(h) has been revised to delete the requirement for inclusion of forms 7324, 7325, and 7325-A in those construction contract solicitations where it is estimated that the cost of the work will not exceed $24,000.

17. Paragraph 18-305(1) has been added to require inclusion of the clause entitled *Performance at Occupied Postal Premises* in solicitations for minor repairs and improvements which call for performance at occupied postal facilities.

18. Paragraph 18-512.3(b)(xii) has been added to require inclusion of the clause entitled *Performance at Occupied Postal Premises* in invitations for bids for construction which call for performance at occupied postal facilities.

19. The May 1975 revision of Form 7391, *General Provisions for Fixed-Price Construction Contracts,* has been included in section 18. Previous editions of the form are obsolete and shall be destroyed.

NOTE.—The Special Instructions of PCM Transmittal Letter 26, November 11, 1977, prescribing changes to Form 7391 (May 1975) continue in effect pending revision of the form.

SECTION 19—MAIL TRANSPORTATION CONTRACTING

20. Paragraph 19-110.2 has been revised to clarify policy which prohibits postal employees or members of their immediate families from either holding contracts to carry the mail or serving as sureties on such contracts.

21. Paragraph 19-303.272(c) has been revised to clarify policy regarding payments to contractors for extra trips of highway contract service.

22. Paragraphs 19-308(f), 19-310.6(d), 19-408(e), 19-410.3(e) 19-412.3(f), and 19-909(e) have been revised to indicate the current address for the Bureau of Traffic Interstate Commerce Commission, in Washington, D.C.

23. Paragraph 19-310.4 has been revised to delete the restriction on renewal of highway transportation contracts that were "procured after January 1, 1976 for a term of less than 18 months."

24. Paragraph 19-502.1 has been revised to indicate that, in those inland domestic water contracts where the bid was based on commingled revenue, 19-303.27 is not applicable.

25. Paragraph 19-810.14 has been revised to correct a form number and title.

26. The following revised forms have been included in section 19 and shall be used immediately, where applicable:

(1) Form 7407, August 1978—*Basic Surface Transportation Services Contract General Provisions.*

(2) Form 7435, July 1977—*Solicitation for Transportation Services Contract.*

(3) Form 7445, May 1978—*Inquiry Concerning Renewal of Transportation Services Contract.*

(4) Form 7451, October 1977—*Air Taxi Contract General Provisions.*

(5) Form 7455, July 1977—*Air Taxi Service—Aircraft Requirements and Flight Personnel Qualifications.*

(6) Form 7469, Sept. 1977—*Highway or Domestic Water Transportation Contract Information and Instructions.*

(7) Form 7485, August 1978—*Air Taxi Contract Information and Instructions.*

Previous editions of the above forms are obsolete and shall be destroyed.

SECTION 20—ADMINISTRATIVE MATTERS

27. Part 2 of section 20 has been revised to update the uniform numbering system for procurement documents.

28. The remainder of the changes are minor, editorial, or technical in nature.

In consideration of the foregoing, 39 CFR 601.105 is amended by adding the following to § 601.105.

§ 601.105 Amendment to the Postal Contracting Manual.

* * * * *

AMENDMENTS TO POSTAL CONTRACTING MANUAL

Transmittal letter	Dated	FEDERAL REGISTER publication
* * * * *		
27	Jan, 29, 1979	44 FR —

(5 U.S.C. 552(a) (39 U.S.C. 401, 404, 410, 411, 2008))

W. ALLEN SANDERS,
Acting Deputy General Counsel.

[FR Doc. 79-4571 Filed 2-8-79; 8:45 am]

[6560-01-M]

Title 40—Protection of the Environment

CHAPTER I—ENVIRONMENTAL PROTECTION AGENCY

[FRL 1040-1]

PART 65—DELAYED COMPLIANCE ORDERS

Delayed Compliance Order for Headquarters, 43rd Combat Support Group (SAC), Andersen Air Force Base, Guam

AGENCY: Environmental Protection agency.

ACTION: Final Rule.

SUMMARY: The Administrator of EPA hereby issues a Delayed Compli-

ance Order to Andersen Air Force Base. The Order requires the Air Force to bring air emissions from its sandblasting facility in Guam into compliance with certain regulations contained in the federally-approved Guam Implementation Plan. Andersen Air Force Base compliance with the Order will preclude suits under the federal enforcement and citizen suit provisions of the Clean Air Act for violations of the SIP regulations covered by the Order during the period the Order is in effect.

DATES: This rule takes effect on February 9, 1979.

FOR FURTHER INFORMATION CONTACT:

William M. Thurston, Chief, Case Development Section, Air and Hazardous Materials Branch, Enforcement Division, EPA, Region IX, 215 Fremont Street, San Francisco, California, 94105, telephone (415) 556-6150.

ADDRESSES: The Delayed Compliance Order and supporting material are available for public inspection and copying during normal business hours at: Enforcement Division Offices, Environmental Protection Agency, 215 Fremont Street, San Francisco CA 94105.

SUPPLEMENTARY INFORMATION: On November 21, 1978, the Regional Administrator of EPA's Region IX Office published in the FEDERAL REGISTER (43 FR 54274), a notice setting out the provisions of a proposed delayed compliance order for Andersen Air Force Base. The notice asked for public comments and offered the opportunity to request a public hearing on the proposed Order. No public comments or requests for a public hearing were received in response to the proposal notice.

Therefore, a delayed compliance order effective this date is issued to Andersen Air Force Base by the Administrator of EPA pursuant to the authority of Section 113(d)(1) of the Clean Air Act, 42 U.S.C. 7413(d)(1). The Order places Andersen Air Force Base on a schedule to bring its sandblasting facility in Guam into compliance as expeditiously as practicable with Chapters 8 and 10 of the Guam Air Pollution Control Standards and Regulations, a part of the federally-approved Guam Implementation Plan. The Order also imposes interim requirements which meet Sections 113(d)(1)(C) and 113(d)(7) of the Act, and monitoring and reporting requirements. If the conditions of the Order are met, it will permit Andersen Air Force Base to delay compliance with the SIP regulations covered by the Order until June 15, 1979. The Air Force is unable to immediately comply with these regulations.

EPA has determined that the Order shall be effective February 9, 1979, because of the need to immediately place Andersen Air Force Base on a schedule for compliance with the applicable requirements of the Guam Implementation Plan.

(42 U.S.C. 7413(d), 7601.)

Dated: February 2, 1979.

BARBARA BLUM,
Acting Administrator.

In consideration of the foregoing, Chapter I of Title 40 of the Code of Federal Regulations is amended as follows:

PART 65—DELAYED COMPLIANCE ORDERS

1. By amending the table in § 65.560 Federal delayed compliance orders issued under Section 113(a) (1), (3), and (4) of the Act, by adding the following entry:

Source	Location	Order No.	SIP regulation involved	Date of FR proposal	Final compliance date
Andersen Air Force Base	Guam	9-77-40	Guam Chapters 8 & 10	Nov. 21, 1978.	June 15, 1979

[FR Doc. 79-4239 Filed 2-8-79; 8:45 am]

[3125-01-M]

CHAPTER V—COUNCIL ON ENVIRONMENTAL QUALITY

PART 1502—ENVIRONMENTAL IMPACT STATEMENT

National Environmental Policy Act—Regulations; Implementation of Procedural Provisions; Correction

AGENCY: Council on Environmental Quality, Executive Office of the President.

ACTION: Correction to final regulations.

SUMMARY: On November 29, 1978 (43 FR 55978), the Council published in the FEDERAL REGISTER final regulations for the implementation of the procedural provisions of the National Environmental Policy Act. The following is a correction to the November 29 publication. Typographical errors will be corrected when the regulations are published in the Code of Federal Regulations. Other corrections were published in the January 3, 1979, FEDERAL REGISTER (44 FR 873).

EFFECTIVE DATE: July 30, 1979.

FOR FURTHER INFORMATION CONTACT:

Nicholas C. Yost, General Counsel, Council on Environmental Quality, Executive Office of the President, 722 Jackson Place, NW., Washington, D.C. 20006 (telephone number (202) 395-5750).

§ 1502.16 [Amended]

On page 55996, in § 1502.16(c), change the cross-reference "§ 1506.2(c)" to "§ 1506.2(d)."

NICHOLAS C. YOST,
General Counsel.

FEBRUARY 2, 1979.

[FR Doc. 79-4475 Filed 2-8-79; 8:45 am]

[6820-96-M]

Title 41—Public Contracts and Property Management

CHAPTER 101—FEDERAL PROPERTY MANAGEMENT REGULATIONS

SUBCHAPTER H—UTILIZATION AND DISPOSAL

[FPMR Temp. Reg. H-18, Supp. 1]

APPENDIX—TEMPORARY REGULATIONS

Utilization, Donation, and Disposal of Foreign Gifts and Decorations

AGENCY: Federal Property Resources Service, General Services Administration.

ACTION: Temporary regulation.

SUMMARY: By this regulation, GSA is extending the expiration date of FPMR Temporary Regulation H-18, Utilization, donation, and disposal of foreign gifts and decorations, to allow additional time to develop a permanent regulation.

DATES: Effective date: January 1, 1979. Expiration date: June 30, 1979.

FOR FURTHER INFORMATION CONTACT:

Mr. Stanley M. Duda, Director, Utilization Division (703-557-1540).

SUPPLEMENTARY INFORMATION: The General Services Administration has determined that this regulation will not impose unnecessary burdens on the economy or on individuals and, therefore, is not significant for the purposes of Executive Order 12044.

(Sec. 205(c), 63 Stat. 390 (40 U.S.C. 486(c)) (sec. 515, 91 Stat. 862 (5 U.S.C. 7342).)

In 41 CFR Chapter 101, the following temporary regulation is added to the appendix at the end of Subchapter H to read as follows:

[Federal Property Management Reg.; Temporary Reg. H-18; Supplement 1]

UTILIZATION, DONATION, AND DISPOSAL OF FOREIGN GIFTS AND DECORATIONS

1. *Purpose.* This regulation extends the expiration date of FPMR Temporary Regulation H-18 to June 30, 1979.

2. *Effective date.* This regulation is effective January 1, 1979.

3. *Expiration date.* This regulation expires June 30, 1979.

4. *Explanation of change.* The expiration date shown in paragraph 3 of FPMR Temporary Regulation H-18 is revised to read June 30, 1979, to allow additional time to develop a permanent regulation.

JAY SOLOMON,
Administrator of General Services.

JANUARY 23, 1979.

[FR Doc. 79-4480 Filed 2-8-79; 8:45 am]

[4110-12-M]

Title 45—Public Welfare

SUBTITLE A—DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE, GENERAL ADMINISTRATION

PART 70—STANDARDS FOR A MERIT SYSTEM OF PERSONNEL ADMINISTRATION

Redesignation and Transfer of Regulations

AGENCY: Department of Health, Education, and Welfare.

ACTION: Final Regulations.

SUMMARY: The regulations in 45 CFR Part 70, Standards for a Merit System of Personnel Administration, are being removed from Title 45. These regulations are being revised and reissued by the Office of Personnel Management as 5 CFR Part 900, Subpart F, in Part III of this issue.

EFFECTIVE DATE: February 9, 1979.

FOR FURTHER INFORMATION CONTACT:

Dean B. Junior, Department of Health, Education, and Welfare, Office of Personnel and Training, Room B-110, Trans Point Bldg., 330 Independence Avenue, S.W., Washington, D.C. 20201, 202-245-2103.

SUPPLEMENTAL INFORMATION: Since they became effective, the Standards for a Merit System of Personnel Administration, 45 CFR Part 70 (promulgated jointly by the Departments of Health, Education, and Welfare, Labor, and Defense) have served as the basic document governing the personnel administration activities of State and local government recipients of Federal grants-in-aid. Basically, the standards were designed to promote proper stewardship of Federal grant funds, and cause correct and efficient administration of the grant programs thereby assuring that the program services were actually delivered to the clients at which they were aimed.

The Intergovernmental Personnel Act (IPA), Pub. L. 91-648, transferred many functions, powers, and duties which had previously been performed by various Federal agencies, including HEW, to the U.S. Civil Service Commission. It also gave the Commission the authority to prescribe merit system standards and provide assistance to State and local governments in applying the standards; however, up to this time, the Commission has continued to use the old Standards for a Merit System of Personnel Administration which were discussed above.

Since the Standards for a Merit System of Personnel Administration were issued about seven years ago, and were actually drafted prior to the enactment of the IPA, because the nature and extent of intergovernmental relations have changed markedly during that time, and for several other reasons, in 1976 the Commission determined that the standards should be reviewed and possibly revised. The Commission published notice of the review in the FEDERAL REGISTER on November 30, 1976.

The Commission's review resulted in general agreement by all concerned that the standards should be updated and revised to combine the best features of the Standards for a Merit System of Personnel Administration with the merit principles enumerated in the IPA. As the Office of Personnel Management (one of the successor agencies to the Civil Service Commission) Commission is now publishing revised Standards for a Merit System of Personnel Administration as 5 CFR Part 900, Subpart F, 45 CFR Part 70 is being vacated.

Dated: November 20, 1978.

HALE CHAMPION,
Acting Secretary.

[FR Doc. 79-4259 Filed 2-8-79; 8:45 am]

[6730-01-M]

Title 46—Shipping

CHAPTER IV—FEDERAL MARITIME COMMISSION

Subchapter A—General Provisions

[Docket No. 78-56]

PART 509—ACTIONS TO ADJUST OR MEET CONDITIONS UNFAVORABLE TO SHIPPING IN THE U.S. ATLANTIC AND GULF/EUROPEAN TRADES

AGENCY: Federal Maritime Commission.

ACTION: Final rule.

SUMMARY: The Federal Maritime Commission has adopted this Rule pursuant to section 19(1)(b) of the Merchant Marine Act of 1920 (46 U.S.C. 876(1)(b)) in order to adjust or meet conditions unfavorable to shipping in the foreign trade of the United States which may have arisen from possible illegal acts, rates and/or practices of the Baltic Shipping Company, a foreign-flag common carrier by water in the foreign commerce of the United States. This Rule would suspend, reject or cancel tariffs filed with the Commission by Baltic Shipping Company upon the Company's failure to provide certain information to establish that these possible acts, rates and/or practices do not exist, and do not constitute conditions unfavorable to the foreign trade of the United States.

EFFECTIVE DATE: March 12, 1979.

FOR FURTHER INFORMATION CONTACT:

Joseph C. Polking, Assistant Secretary, Room 11101, 1100 L Street, NW., Washington, D.C. 20573, (202) 523-5725.

SUPPLEMENTAL INFORMATION: Pursuant to section 19(1)(b) of the Merchant Marine Act, 1920 (46 U.S.C. 876(1)(b)), as implemented by Part 506 of the Commission's rules (46 CFR Part 506), the Federal Maritime Commission is authorized and directed to make rules and regulations affecting shipping in the foreign trade of the United States in order to adjust or meet general or special conditions unfavorable to shipping in the foreign trade of the United States which arise out of, or result from, foreign laws, rules or regulations, or from competitive methods or practices employed by owners, operators, agents or masters of vessels of a foreign country.

The types of conditions which the Commission has found to be unfavorable to shipping in the foreign trade of the United States are set forth generally in 46 CFR 506.3. Among these are conditions which preclude or tend to preclude a vessel in the foreign trade of the United States from competing in the trade on the same basis as any other vessel, those which are discriminatory or unfair as between carriers, and those which are otherwise unfavorable to shipping in the foreign trade of the United States. (46 CFR 506.3 (a), (c) and (d).)

A. BACKGROUND

On April 17, 1978, the Commission issued an Order to the Baltic Shipping Company (Baltic), an ocean common carrier, to produce certain information pertaining to its rates and practices in the foreign commerce of the United States. This Order was issued pursuant to the Commission's authority under section 21 of the Shipping Act, 1916 (46 U.S.C. 820), to investigate the following suspected activities of Baltic: (1) massive misrating in the United States Gulf Coast/North Europe trades;[1] (2) entering into unfiled agreements with other ocean carriers pertaining to equipment sharing, in violation of section 15 of the Shipping Act, 1916 (46 U.S.C. 814);[2] and (3) improper implementation of its tariff provisions concerning space charters.[3] These activities were suspected on the basis of information received by the Commission from various sources, including a staff examination of documents relating to Baltic shipments from United States Gulf coast ports.[4]

The section 21 Order originally called for Baltic's response to be completed no later than May 30, 1978. Pursuant to Baltic's request, an extension of time was granted by Commission Order dated May 26, 1978. This Order set forth an extended timetable for compliance, with Baltic's response to be complete by August 30, 1978. Despite this extension, and the passage of five months beyond the Commission's deadline, Baltic still has complied only partially with the Commission's April 17, 1978 Order. Baltic has provided piecemeal responses to various portions of the Order,[5] but it does not appear that full compliance is forthcoming.[6]

Although Baltic has now provided at least facial compliance with the other sections of the investigative Order, Baltic has submitted only a portion of the information sought under paragraph (A)(3)(e) of the Order.[7] This paragraph seeks the key to understanding the remainder of the raw data Baltic has submitted by calling for the tariff authority (described by tariff item number or otherwise) relied upon by Baltic in assessing the rates under investigation. Without the information sought by paragraph (A)(3)(e), the data provided by Baltic is virtually useless. The data provided discloses only that Baltic carried certain cargoes and assessed certain charges, but leaves open the question of what tariff authority, if any, Baltic relied upon in assessing the charges. The focus of the Commission's investigation is on whether Baltic has misrated its cargo, and this cannot be determined if the Commission has no idea what rate Baltic used.[8]

The Commission's investigation of Baltic's rates and practices is a broad one, covering a major portion of Baltic's activities in the foreign commerce of the United States.[9] These activities are on a large scale, and would cause significant harm to the public, shippers and the merchant marine of the United States if they involved widespread violations of the Shipping Act or other laws designed to protect those entities. Baltic's failure to provide the information sought by paragraph (A)(3)(e) of the Commission's Order of April 17, 1978 prevents the Commission from determining whether, or to what extent, the wide range of Baltic's activities under investigation is unlawful. Efforts to obtain a diplomatic resolution of this problem through the Department of State have been unavailing.[10] This situation gives rise to two major concerns on the part of the Commission: (1) That Baltic is withholding the information sought in paragraph (A)(3)(e) because this information would disclose that Baltic in fact has been engaging in widespread violations of the Shipping Act, 1916; and (2) That Baltic, by consistently refusing to provide information pertaining to many of its activities in the foreign commerce of the United States, is effectively placing itself beyond regulation by the Commission.

To alleviate these concerns, the Commission proposed this Rule, pursuant to section 19(1)(b) of the Merchant Marine Act, 1920 (46 U.S.C. 876(1)(b)), to require Baltic to provide the information sought in the Commission's section 21 Order, as well as similar information for a future twelve month period, so that the Commission can monitor Baltic's activities more carefully.[11] Comments were received from the Baltic Shipping Company, the United States Department of State, and United States Lines.

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[1] Misrating of cargo, especially if it occurs intentionally and on a large scale, can be an effective form of illegal rebating to shippers, in violation of sections 14, 16 and 18 of the Shipping Act, 1916 (46 U.S.C. 812, 815 and 817). If some shippers, cargo or ports are favored with lower rates through misrating, while other similarly situated shippers, cargo or ports are not, undue preferences or advantages may result, in violation of section 16 of the Shipping Act, and unjust discriminations may result, in violation of section 17 of the Shipping Act (46 U.S.C. 816).

[2] To the extent that Baltic has entered into agreements or cooperative working arrangements with other carriers subject to section 15 of the Shipping Act, 1916 without first filing such agreements or arrangements for approval by the Commission, Baltic has violated section 15 of the Shipping Act.

[3] Noncompliance with tariff provisions is violative of section 18 of the Shipping Act, 1916 (46 U.S.C. 817), and can also result in undue preferences or advantages, in violation of section 16, and unjust discriminations between shippers, in violation of section 17 of the Shipping Act.

[4] Of the 179 rated bills of lading examined, 45 appeared to be misrated and as to 9 additional bills of lading, the tariff item number or other tariff authority for the rate charged could not be ascertained.

[5] Baltic's most recent submission was received on January 26, 1979 and contained a facially sufficient response to paragraphs (B)(1) through (B)(3), (C)(1) and (C)(2) of the investigative Order denying the existence of any documents or information responsive to those paragraphs beyond that already filed with the Commission.

[6] After considering Baltic's legal objections to full compliance with the Order and notifying Baltic on several occasions that its objections are without merit, the Commission, on January 17, 1979, served its final *Order and Notice of Default* finding Baltic to be in default of the Order. *See In Re: Baltic Shipping Company—Rates and Practices in the U.S. Gulf Coast/North Europe Trade* (FMC Docket No. 78-36).

[7] On January 15, 1979, Baltic submitted a list stating the tariff authority it relied on with respect to 789 of the roughly 3,000 bills of lading or manifests it had previously filed. Baltic has not provided tariff authority for the charges reflected on the remaining group of over 2,200 bills of lading and manifests.

[8] Baltic has suggested that the Commission's staff, using the raw data already provided by Baltic, is in as good a position as Baltic to determins what tariff authority, if any, Baltic relied upon in rating its cargoes. Baltic argues that this task is properly that of the Commission. Baltic apparently overlooks the fact that the Commission is not interested in how its own staff might have assessed the cargo except in comparison to how Baltic *in fact* assessed it. Moreover, the basis for Baltic's rate assessments cannot be determined with certainty by the Commission's staff because: (1) Baltic's tariff structure often does not allow precise classification of commodities from their description on bills of lading or manifests; (2) rates assessed are sometimes hidden in unrelated special rate sections; and (3) rates assessed are sometimes included in mixed commodity groupings that do not consist of analogous commodities.

[9] *Cf. In Re: Baltic Shipping Company—Rates on Buses in the U.S. Gulf Coast/North Europe Trade* (FMC Docket No. 78-38), which involved a Commission investigation of apparent misrating of a single commodity, buses.

[10] *See* note 31, *infra*.

B. STATUTORY AUTHORITY

1. SECTION 19, MERCHANT MARINE ACT, 1920

(a) *Legislative History.* At the end of the First World War, Congress was forced to consider how to dispose of the large merchant fleet the United States had acquired during the War. As a result of its wartime experience, Congress was convinced of the value of maintaining an adequate merchant marine for defense purposes and to meet the needs of American shippers, but was concerned about the ability of this merchant marine to compete on equal terms with established foreign fleets, such as those of Great Britain. Congress, having plenary power to regulate, or exclude completely, foreign commerce, and to delegate such power where appropriate,[12] recognized that it lacked the flexibility to respond quickly and effectively to the actions of foreign countries in the commercial field which adversely affect the oceanborne commerce of the United States. Section 19 of the Merchant Marine Act, 1920, contains broad language indicative of Congress' intention to bestow the widest possible authority upon the Shipping Board (now the Federal Maritime Commission) in shipping matters.[13] As indicated in the Senate committee report accompanying the Act: [14]

> Far-reaching power is placed in the Shipping Board to make and control rules and regulations affecting shipping, and to meet foreign competition. We must do something of this kind, if we are to meet the practices and methods of other countries. Through their orders in council and other semilegislative acts of administrative bodies they interfere with and handicap our merchant marine in many different ways. This must be met in a similar way.

Section 19 of the Merchant Marine Act contains no restrictive language with regard to the measures that the Commission may take to meet adverse conditions created by foreign carriers or governments. Rather, that section contemplates that the Commission will take whatever action is necessary to meet or counterbalance conditions unfavorable to shipping in the foreign commerce of the United States.[15] Congress has taken no action since the passage of the Merchant Marine Act, 1920 inconsistent with the Commission's present application of that Act in its Rule.[16]

(b) *Application of Section 19.* The Commission, to invoke section 19 of the Merchant Marine Act, must find that a condition unfavorable to shipping in the foreign trade exists, and that it exists as a result of a foreign rule, regulation, method or practice. Baltic contends that the Commission's Rule does not make these necessary findings. This is incorrect. The Commission *has found* that, if Baltic does not provide the information sought by the Rule, two conditions, each unfavorable to shipping in the foreign trade, *will exist* [17] as a consequence of this failure: (1) widespread and intentional misrating of cargo in the foreign commerce of the United States, in violation of sections 14, 16, 17 and 18 of the Shipping Act, 1916; and (2) the placement of Baltic's activities in the foreign commerce of the United States beyond effective regulation by the Commission. These findings are existing and unequivocal, and take effect upon Baltic's failure to comply with the Rule's informational requirements. If Baltic supplies the information required, these findings will not apply.[18]

The Commission's finding of widespread Shipping Act violations is based upon Baltic's continued refusal to produce information necessary to effective regulation of Baltic's activities. Because Baltic has exclusive access to this information, the Commission is forced to choose between abandoning its investigation of Baltic's activities, or notifying Baltic that, in the absence of compliance from Baltic, it will presume that the possible Shipping Act violations under investigation exist. The Commission has chosen the latter option.

The Commission's finding that Baltic has placed itself beyond regulation is based upon Baltic's continued refusal to comply with a substantial portion of the Commission's Order requesting information as to its rates and practices in United States foreign commerce. Baltic's legal objections do not involve any considerations of foreign law,[19] and its arguments as to the laws of the United States do not raise colorable legal issues.[20] If Baltic is allowed to operate in U.S. foreign commerce without having to comply, as other foreign and domestic carriers must, with investigative Orders of the Commission, it will thereby gain an unfair competitive advantage by being able to engage in lucrative but unlawful activities with a reduced danger of detection. Other carriers will be tempted to counteract this situation by similarly refusing to comply with Commission Orders. The resulting likely disruption of the ocean trades constitutes a condition adverse to shipping in the foreign trade of the United States within the meaning of section 19 of the Merchant Marine Act, 1920.

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[11] The proposed Rule was noticed at 43 FR 60966 (December 22, 1978) (FMC Docket No. 78-56).

[12] *See, e.g., United States* v. *Curtiss-Wright Export Corp.*, 299 U.S. 304 (1936), and the Export Control Act, 1949, as amended (50 U.S.C. App. § 2021).

The Commission's exercise of delegated Congressional power over foreign commerce is carefully circumscribed by section 506.13 of the Commission's Rules (46 CFR 506.13), which requires that the Commission postpone or discontinue any actions taken by it under section 19 of the Merchant Marine Act, "if the President informs the Commission that postponement, discontinuance, or suspension is required for reasons of foreign policy or national security."

[13] 46 U.S.C. 876 provides in pertinent part:

"(1) The board is authorized and directed in aid of the accomplishment of the purposes of this Act:

* * * (b) To make all rules and regulations affecting shipping in the foreign trade not in conflict with law and order to adjust or meet general or special conditions unfavorable to shipping in the foreign trade, whether in any particular trade or upon any particular route or in commerce generally, and which arise out of or result from foreign laws, rules, or regulations or from competitive methods or practices employed by owners, operators, agents or masters of vessels of a foreign country."

[14] Senate Comm. on Commerce, Promotion and Maintenance of the American Merchant Marine [To accompany H.R. 10378], S. Rep. No. 573, 66th Cong., 2d Sess. 5, May 4, 1920 (Comm. Print 1920).

[15] Baltic argues that an implied limitation should be read into section 19 of the Merchant Marine Act as a result of the legislative history of section 20 of that Act (46 U.S.C. 812), which added section 14a to the Shipping Act, 1916 (46 U.S.C. 813). Baltic contends that section 19 does not authorize the suspension of tariffs because tariff suspension is tantamount to denying its vessels entry to United States ports, a step which may be taken only after notice and hearing pursuant to section 14a of the Shipping Act, 1916. Baltic's argument is faulty. The hearing requirement was inserted in section 14a because disputed issues of fact would necessarily be adjudicated in determining whether section 14 has been violated. (*See* 59 CONG. REC. 6859-6860 (1920) (Senate debate)). Part 509, by contrast, does not adjudicate any disputed factual issues, but merely requires the future submission of information to correct the present undisputed fact that there is a lack of information. Additionally, § 509.2(c) of this Rule provides Baltic an adequate opportunity to be heard prior to any tariff suspension.

[16] Baltic suggests that Congress' recent passage of the "Anti-Rebating Bill" (H.R. 9518) (vetoed by the President) is evidence to the contrary. H.R. 9518 would have specifically empowered the Commission to suspend tariffs of foreign carriers that refuse to provide information concerning illegal rebating. Baltic's assertion that this *specific* proposal negates any of the Commission's *general* authority under existing law represents an improbable and unconvincing form of statutory construction. Additionally, in referring to pertinent parts of the legislative history of H.R. 9518 (*i.e.*, House Comm. on Merchant Marine and Fisheries, Rebating Practices in the United States Foreign Trade [To accompany H.R. 9518], H.R. Rep. No. 95-922, 95th Cong., 2d Sess. 15 (1978), and Senate Comm. on Commerce, Science and Transportation, Report [To accompany H.R. 9518], S. Rep. No. 95-966, 95th Cong., 2d Sess. 23 (1978)), Baltic overlooks the fact that the "Anti-Rebating Bill" was addressed to disclosure problems created by *foreign law* ("blocking statutes"), and the potential conflicts arising from simultaneous application of inconsistent laws of different sovereigns. Baltic has repeatedly stated (most recently in its comments in opposition to the Commission's proposed section 19 Rule, at page 11), that there is *no issue* of foreign law involved in its failure to produce the information required by the Rule.

[17] This finding, effective upon Baltic's failure to provide the information required by the Rule, is made pursuant to § 506.12 of the Commission's Rules (46 C.F.R. 506.12), which states: "The Commission may, when there is a failure to produce any information ordered produced under § 506.11, make appropriate findings of fact or deem such a failure to produce as an admission that conditions unfavorable to shipping in the foreign trade of the United States do exist.

[18] This is not to say that through providing this information, Baltic will be insulated from possible enforcement proceedings under the Shipping Act, 1916.

2. AUTHORITY UNDER THE SHIPPING ACT, 1916

Among the statutory bases cited by the Commission for issuing Part 509 of its Rules is its rulemaking power under section 43 of the Shipping Act, 1916 (46 U.S.C. § 841a). Baltic challenges this authority, and maintains that the Commission has no power under the Shipping Act to suspend tariffs or assess other "penalties" not specifically provided for in the Shipping Act.[21]

This Rule does not constitute a penalty for past conduct, and Baltic's arguments addressed to "penalties" are therefore inapposite. The Rule prescribes future conduct, in the form of production of necessary information by Baltic. Tariff suspension is invoked only as a last resort in the event of noncompliance by Baltic, to avoid complete frustration of the Commission's regulatory efforts and disruption of United States ocean trades.

Section 43 of the Shipping Act has been interpreted as giving the Commission added powers to enact rules regarding matters not specifically covered by substantive provisions of the Shipping Act.[22] Further, it appears that measures as stern as tariff suspension are allowable where information vital to effective Commission regulation is being withheld and no appropriate alternative exists.[23]

C. ADMINISTRATIVE DUE PROCESS

1. THE ADMINISTRATIVE PROCEDURE ACT

This Rule has been promulgated in accordance with the rulemaking provisions of section 4 of the Administrative Procedure Act (APA), (5 U.S.C. 553). The basis for the Rule's informational requirement is the Commission's need for certain information presently in the exclusive control of the Baltic Shipping Company which is essential to the effective regulation of Baltic. The basis for the Rule's tariff suspension provision is the Commission's conclusion that noncompliance with the informational requirement would give rise to adverse conditions in the foreign trade that can be avoided through no other means. It is thus apparent that the Rule does not rest in any manner upon contested issues of fact or upon undisclosed information in agency files.[24]

Most of Baltic's legal arguments concerning its rights under the APA derive from its claim that Part 509 "[which] judges Baltic's past conduct, determines Baltic's future rights and obligations, and imposes sanctions against Baltic, is an 'adjudication' under the A.P.A."[25] Implicit in this claim is Baltic's apparent belief that a requirement that it produce before a regulatory agency pertinent information concerning its activities constitutes a penalty and implies an adjudication. The informational requirement of the Rule is reasonable, in furtherance of the Commission's regulatory functions, and is not an adjudication or penalty as a matter of law.[26] The application of the tariff suspension provision of the Rule would not require the deciding of any contested issue of fact. Baltic's position with regard to the applicability of the APA's adjudication requirements (5 U.S.C. 554) therefore is without merit. Baltic's objection that it has been denied an opportunity to be heard is met by § 509.2(c) of the Rule.

2. DUE PROCESS OF LAW

Baltic complains that the Rule, by suspending its tariffs upon nonproduction of information, deprives it of an opportunity to seek, in good faith, judicial review of the legality of the informational requirement. Citing *Ex Parte Young*[27] and its progeny, Baltic contends that it is entitled to immunity from the tariff suspension provision of the Rule until judicial review of the informational provision of the Rule is complete. Absent such immunity, Baltic contends that the Rule represents an unlawful deprivation of due process of law.

Baltic's contention is infirm for the following reason: Baltic's legal objections to the informational provision are obviously devoid of merit, and therefore do not present a colorable legal dispute for judicial resolution.[28] It is noted that:

> "* * * [t]here is no automatic right to interlocutory relief in the law. Even in the highly sensitive First Amendment area, * * * a 'persuasive demonstration' of likely success on the merits is a necessary predicate to obtaining a preliminary injunction * * *. Particularly where the public interest may be sacrificed by the grant of a preliminary injunction, courts of equity require a substantial showing by the moving party of the strength of its claim."[29]

Having weighed Baltic's asserted interest in a stay of this Rule against the regulatory and public interests in its adoption, the Commission has determined that a stay of this Rule is unwarranted.

Baltic's remaining due process objections concern its right to a full and fair hearing. These due process objections suffer the same infirmities as Baltic's APA objections. Because the APA fully protects Baltic's due process rights in proceedings before the Commission, Baltic's due process objections add nothing to its APA objections.

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[19] *See* note 16, *supra*.

[20] *See* note 28, *infra*.

[21] Baltic cites *Commonwealth of Pennsylvania v. Federal Maritime Commission*, 392 F.Supp. 795 (D.D.C. 1975) for the proposition that the Commission is without power to suspend tariffs of foreign carriers under any circumstances. In the *Pennsylvania* case, the court merely sustained the Commission's contention that it had no authority, under section 18(b) of the Shipping Act (46 U.S.C. 817), to suspend a foreign tariff pending a determination of its reasonableness. The court did not address tariff suspensions of the type provided by this Rule.

[22] *See, e.g., New York Foreign Freight Forwarders & Brokers Ass'n.* v. *Federal Maritime Commission*, 337 F.2d 289 (2d Cir. 1964), *cert. den.*, 380 U.S. 910, and *Alcoa Steamship Co.* v. *Federal Maritime Commission*, 348 F.2d 756, 761 (D.C. Cir. 1965).

[23] *See Calcutta East Coast of India & Pakistan/U.S.A. Conference* v. *Federal Maritime Commission*, 399 F.2d 994, 998 (D.C. Cir. 1968), and Note, "Rate Regulation in Ocean Shipping," 78 *Harv. L. Rev.* 635, 642-44 (1965).

[24] *Cf., Home Box Office, Inc. v. Federal Communications Commission*, 567 F.2d 9, 55 (D.C. Cir. 1977).

[25] From this claim, Baltic asserts that it is entitled to, and has been denied, its right to a hearing pursuant to 5 U.S.C. 554. Both assertions are incorrect. The adjudication provisions of 5 U.S.C. 554 do not apply to this proceeding. *See* note 26, *infra*. Additionally, in light of the fact that there are no contested factual issues in this proceeding, Baltic is afforded a sufficient opportunity to be heard by § 509.2(c) of the Rule.

[26] *See United States v. Morton Salt Co.*, 338 U.S. 632 (1950), and *In Re: FTC Line of Business Report Litigation*, F.2d—, D.C. Cir. No. 77-1728 (decided July 10, 1978) slip op. at 33-43. *See also, Guardian Federal Savings and Loan Assoc. v. Federal Savings and Loan Insurance Corporation*, —F.2d—, D.C. Cir. No. 77-1550 (decided November 13, 1978) slip op. at 7-8.

[27] 209 U.S. 123 (1908).

[28] Baltic's legal objections and their merits are discussed more fully in the Commission Orders appearing in *In Re: Baltic Shipping Company—Rates and Practices in the U.S. Gulf Coast/North Europe Trade*, (FMC Docket No. 78-36). The reasoning of the Commission's Orders in those cases is adopted here.

[29] *Ford Motor Company v. Coleman*, 402 F. Supp. 475, 487 (D.D.C. 1975), *affirmed*, 425 U.S. 927. *See also, Virginia Petroleum Jobbers v. Federal Power Commission*, 259 F.2d 921 (D.C. Cir. 1958), *Washington Metropolitan Area Transit Commission v. Holiday Tours, Inc.*, 559 F.2d 841 (D.C. Cir. 1977), *United States v. General Motors Corp.*, 565 F.2d 754 (D.C. Cir. 1977), *St. Regis Paper Co. v. United States*, 368 U.S. 208 (1961), and *Genuine Parts Co. v. Federal Trade Commission*, 445 F.2d 1382, 1394 (5th Cir. 1971).

C. COMMISSION ACTION

Having given due consideration to the comments received from the Baltic Shipping Company, the State Department,[30] and United States Lines,[31] the Commission has determined to adopt Part 509.

Certain minor changes were made to Part 509 as proposed, for the sake of clarity. Section 509.2(b) was made more specific with regard to the time for information submissions, and the requirement of § 509.2(b) for an *undertaking* to provide information was altered to a requirement that the information in fact be provided. Additionally, the words, "tariff authority" were added to § 509.2(b) to avoid the impression that only tariff items to which numbers have been assigned are required. Reference to paragraphs (B)(1) through (B)(3), (C)(1) and (C)(2) of the Commission's section 21 Order was deleted from the Rule in light of Baltic's January 26, 1979, submission of additional information responsive to those paragraphs.

In view of the sensitive foreign policy considerations[32] involved in regulating the bilateral trades between the United States and the Soviet Union (under whose flag the Baltic Steamship Company operates), the Commission added § 509.3(f), exempting tariffs applying to the direct movement of cargo between the United States and the Soviet Union from the tariff suspension provisions of the Rule.

In response to Baltic's recently expressed willingness to cooperate in fulfilling the Commission's investigative needs,[33] and in the hope that Baltic will avail itself of this further and final opportunity to do so, the tariff suspension date in the Rule was extended from thirty to forty-five days. This period, together with thirty day period between the publication of this Rule and its effective date required by 5 U.S.C. 553(d), will give Baltic a total of seventy-five days from the date this Rule is published in the FEDERAL REGISTER in which to avoid the suspension of its tariffs.

Therefore, pursuant to section 19(1)(b) of the Merchant Marine Act, 1920 (46 U.S.C. 876(1)(b)) and section 43 of the Shipping Act, 1916 (46 U.S.C. 841a), the Commission hereby enacts Part 509, Title 46 CFR, as follows:

PART 509—ACTIONS TO ADJUST OR MEET CONDITIONS UNFAVORABLE TO SHIPPING IN THE UNITED STATES ATLANTIC AND GULF/EUROPEAN TRADES

Sec.
509.1 Conditions Unfavorable to Shipping in the Foreign Trade of the United States.
509.2 Production of Information.
509.3 Rejection, Suspension, or Cancellation of Tariffs.

AUTHORITY: Commission General Order No. 33 (46 CFR Part 506, 19(1)(b) of the Merchant Marine Act, 1920 (46 U.S.C. 876(1)(b)), section 4 of the Administrative Procedure Act (5 U.S.C. 553), section 43 of the Shipping Act, 1916 (46 U.S.C. 841a), and Reorganization Plan No. 7 of 1961 (75 Stat. 840).

§ 509.1 Conditions unfavorable to shipping in the foreign trade of the United States.

The Federal Maritime Commission has determined that the Baltic Shipping Company, also doing business as Balt-Atlantic Line, Balt-Gulf Line, and Baltic Middle East Line, (hereinafter referred to collectively as Baltic) will have created conditions unfavorable to shipping in the foreign trade of the United States by: (1) engaging in certain activities in the United States Atlantic and Gulf/European trades (hereinafter also meant to include the United States Atlantic and Gulf/Middle East trades) violative of sections 14, 16, 17 and 18 of the Shipping Act, 1916;[34] and (2) placing itself beyond effective regulation by the Federal Maritime Commission, upon failure to provide information in accordance with section 509.2 of this Part.

§ 509.2 Production of information.

Pursuant to § 506.11 of this Chapter (46 CFR 506.11), the Commission has determined that receipt by the Commission of the following information is necessary in order for the Commission to determine whether either or both of the conditions described in § 509.1 of this Part exist in fact or may be developing:

(a) The information sought in paragraph (A)(3)(e) of the Commission's Order of April 17, 1978 (as modified by its Order of May 26, 1978) concerning Baltic's rates and practices in the U.S. Gulf/North Europe Trade;

(b) Duplicate bills of lading for all cargo carried by Baltic to and from United States Atlantic and Gulf ports for a twelve-month period commencing May 1, 1979. Such bills of lading shall indicate on their face, or on an attached sheet, the tariff and tariff item number or other specific tariff authority used to determine the rate assessed each item of cargo reflected on the bill of lading. Such bills of lading and tariff authority shall be filed quarterly, in accordance with the following schedule:

(1) For cargo delivered in May, June and July, 1979, filing is due no later than September 15, 1979;

(2) For cargo delivered in August, September and October, 1979, filing is due no later than December 15, 1979;

(3) For cargo delivered in November and December, 1979, and January, 1980, filing is due no later than March 15, 1980; and

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[30] The Department of State filed a comment detailing the course of its efforts to obtain the information sought by the Commission through diplomatic channels. While expressing no opinion as to the legality of the Commission's Rule, the State Department expressed concern that the tariff suspension imposed by the Rule upon Baltic's failure to provide information may be too strong a measure under the circumstances. The State Department also expressed belief that Baltic's compliance with the Commission's informational requirements might be forthcoming if Baltic were given more time to comply. In response to this belief, the Commission has extended the time provided within the Rule for compliance with the informational requirement. Tariff suspension is correctly described as a strong measure, and it is for this reason that the Commission has determined to use it only as a last resort, after giving Baltic every opportunity to comply with its informational requirements.

[31] In its comment, United States Lines, a U.S.-flag carrier, expressed agreement with the Commission's concern that Baltic, a foreign-flag carrier, would effectively place itself beyond regulation if it did not comply with the Commission's informational requirements, and that this would work to the unfair competitive disadvantage of U.S.-flag lines. United States Lines takes the position that the proposed Rule is lawful in every respect.

[32] The bilateral trades between the United States and the Soviet Union are the subject of an agreement between the two countries, entitled "Agreement Between the Government of the United States of America and the Government of the Union of Soviet Socialist Republics Regarding Certain Maritime Matters". The Secretary of Commerce signed on behalf of the United States and the Minister of the Merchant Marine signed on behalf of the Soviet Union. The agreement originally entered into force on November 22, 1972, has been amended on several occasions, and is published in *23, United States Treaties and Other International Agreements* (Part 4), 3573-3687 (1972).

[33] This willingness is expressed at page 12 of Baltic's comments. In a letter to the Commission from counsel for Baltic dated December 22, 1978, a willingness to produce the remaining information sought under paragraph (A)(3)(e) of the Commission's Order of April 17, 1978 within sixty days is expressed.

[34] The suspected activities consist of the intentional and widespread misrating of cargo carried to and from United States Atlantic and Gulf ports in order to provide unlawful inducements or advantages to certain shippers or classes of cargo, in violation of sections 14, 16, 17 and 18 of the Shipping Act, 1916.

(4) For cargo delivered in February, March and April, 1980, filing is due no later than June 15, 1980; and

(c) Any other information or argument Baltic wishes to submit for the Commission's consideration to alter its determination that the conditions described in section 509.1 of this Part will exist, and will be unfavorable to shipping in the foreign trade of the United States.

§ 509.3 Rejection, suspension, or cancellation of tariffs.

(a) The Commission has determined that if it does not receive all of the information described in paragraph (a) of § 509.2 within 75 days after the publication of this Part in the FEDERAL REGISTER, then the conditions described in section 509.1 are found to exist and to be unfavorable to shipping in the foreign trade of the United States, pursuant to section 506.12 of the Commission's Rules (46 CFR § 506.12).

(b) The Commission has determined that, upon its failure to receive the information described in paragraph (b) of section 509.2 in accordance with the schedule set forth therein, the conditions described in § 509.1 are found to exist and to be unfavorable to shipping in the foreign trade of the United States pursuant to § 506.12 of the Commission's Rules.

(c) On the effective date of a finding contained in either paragraph (a) or paragraph (b) of this § 509.3 (*i.e.*, 76 days from the publication of this Part in the FEDERAL REGISTER, or upon failure to file information pursuant to paragraph (b) of § 509.2), the following tariffs and all amendments thereto are suspended in full, until such time as the information specified in sections 509.2 (a) and (b) is provided:

I. *Baltic Shipping Company.* FMC Tariff Nos. 32 and 38.

II. *Baltic Shipping Company dba Balt-Atlantic Line.* FMC Tariff Nos. 3, 4, 5, 7, 13, 14, 16, 17, 22, 23, 33, 34, 39, 43, 44, 45, 46, 47, 49, 50 and 51.

III. *Baltic Shipping Company dba Balt-Gulf Line.* FMC Tariff Nos. 36, 37, 40 and 48.

IV. *Baltic Shipping Company dba Baltic Middle East Line.* FMC Tariff No. 31.

(d) All affected conference or rate agreement tariffs shall be amended to reflect the suspension of Baltic's participation upon the effective date of a finding contained in paragraphs (a) or (b) of this § 509.3. This section would suspend, as to all sailings commencing on or after the effective date of this section, all tariff rates, charges and rules as they apply to Baltic in the trades between the United States Atlantic and Gulf Coasts and Europe. Until such time as Baltic furnishes the information sought under § 509.2 of this Part, any tariffs subsequently submitted by or in behalf of Baltic in the trades between United States Atlantic and Gulf Coasts and Europe are within the scope of this Part and will be rejected or suspended upon filing.

(e) Operation by Baltic under suspended, cancelled, or rejected tariffs, or any other act or omission by Baltic inconsistent with this Part, the Shipping Act, 1916, or any other law of the United States or political subdivision thereof, shall subject Baltic to all applicable remedies and penalties provided by law.

(f) Notwithstanding provisions of this Rule to the contrary, tariff rates shall not be suspended which cover the direct movement of cargo to and from the Soviet Union.

By the Commission.

FRANCIS C. HURNEY,
Secretary.

[FR Doc. 79-4572 Filed 2-8-79; 8:45 am]

[7035-01-M]

Title 49—Transportation

CHAPTER X—INTERSTATE COMMERCE COMMISSION

SUBCHAPTER B—PRACTICE AND PROCEDURE UNDER 49 U.S.C. 10928

EMERGENCY TEMPORARY AUTHORITY

Applicants Seeking Operating Rights

AGENCY: Interstate Commerce Commission.

ACTION: Notice of change in number of copies to be filed in ETA application proceedings.

SUMMARY: 49 CFR 1131.2(b) provides that an original and six copies of each emergency temporary authority (ETA) or temporary authority (TA) application and all supporting documents must be filed at the appropriate Commission field office. As to ETA applications, from the effective date of this notice, only an original and two copies of the ETA application and required supporting documents need be filed at the appropriate Commission field office.

DATE: The relief outlined for ETA applications will take effect February 9, 1979.

FOR FURTHER INFORMATION CONTACT:

Judy Holyfield, (202) 275-7792.

SUPPLEMENTARY INFORMATION: At present, applicants for ETA are required to submit to the appropriate Commission field office an original and six copies of their application and all supporting documents. Because of certain internal processing changes recently implemented as to the handling of ETA applications (notably that they be accomplished by telephone), it is no longer necessary for applicants to submit numerous copies of their ETA application and supporting documents to the appropriate Commission field office for subsequent transfer to Washington where such copies were distributed.

Decided January 30, 1979.

By the Commission.

H. GORDON HOMME, Jr.,
Secretary.

[FR Doc. 79-4564 Filed 2-8-79; 8:45 am]

proposed rules

This section of the FEDERAL REGISTER contains notices to the public of the proposed issuance of rules and regulations. The purpose of these notices is to give interested persons an opportunity to participate in the rule making prior to the adoption of the final rules.

[3410-34-M]

DEPARTMENT OF AGRICULTURE

Animal and Plant Health Inspection Service

[9 CFR Part 78]

BRUCELLOSIS

Proposed Miscellaneous Amendments

AGENCY: Animal and Plant Health Inspection Service, USDA.

ACTION: Proposed rule.

SUMMARY: This document proposes to amend the brucellosis regulations to update, simplify, and clarify the requirements under which certain cattle may be moved interstate. This action is needed to make the regulations consistent with the provisions of the revised brucellosis eradication Uniform Methods and Rules and to revise the regulations for uniform interpretation. This action would relieve certain restrictions which are no longer considered necessary and revise the regulations for uniform compliance.

DATE: Comments on or before April 10, 1979.

ADDRESS: Comments to Deputy Administrator, USDA, APHIS, VS, Federal Building, Room 805, 6505 Belcrest Road, Hyattsville, MD 20782, 301-436-8711.

FOR FURTHER INFORMATION CONTACT:

Dr. A. D. Robb, Staff Veterinarian, National Brucellosis Eradication Program, Federal Building, Room 805, 6505 Belcrest Road, Hyattsville, MD 20782, 301-436-8711.

SUPPLEMENTARY INFORMATION: Notice is hereby given in accordance with the administrative procedure provisions in 5 U.S.C. 553, that, pursuant to the provisions of the Act of May 29, 1884, as amended, the Act of February 2, 1903, as amended, the Act of March 3, 1905, as amended, and the Act of July 2, 1962 (21 U.S.C. 111-113, 114a-1, 115, 120, 121, 123, 125, 134b, 134c, and 134f), the Animal and Plant Health Inspection Service is considering amending Part 78, Title 9, Code of Federal Regulations.

The definitions of the terms "owner's statement," "other document," and "specifically approved slaughtering establishment" would be deleted from Part 78 of the regulations and a definition of the terms "recognized slaughtering establishment," "farm of origin," "official adult vaccinate," and "official seal" would be added. These terms are or would be used in the regulations, and the definitions should simplify the regulations.

The proposed definition of the term, "recognized slaughtering establishment" would be any slaughtering establishment operating under the provisions of the Federal Meat Inspection Act (21 U.S.C. 601 et seq.) or a State Meat Inspection Act. This concept is already reflected in the regulations, and the phrase "recognized slaughtering establishment" is added merely to simplify the regulations.

The proposed definition of the term, "farm of origin" would include a premises where the cattle to be shipped were born or have been kept for not less than 4 months prior to the date of shipment and which has not been used within 4 months prior to the date of shipment to assemble cattle raised on other owner's premises. The 4-month period is proposed as the time period when the cattle to be shipped must have been on the premises and the time period when no cattle from outside sources have come onto the premises prior to the date of shipment in order to take into account an incubation period for brucellosis.

The proposed definition of the term, "official adult vaccinate" would be a female bovine animal of a dairy breed over 6 months of age (180 days), or a female bovine animal of a beef breed over 10 months of age (300 days) which has been vaccinated with an approved brucella vaccine. An approved brucella vaccine would be as defined in the Uniform Methods and Rules, Brucellosis Eradication. Any such vaccinations would be required to be conducted under the supervision of a Federal or State veterinary official, and the vaccination would be required to be preceded by a negative official test for brucellosis conducted no more than 10 days prior to the vaccination. The vaccinate would be required to be a member of, or be an addition to, a herd known to be affected at the time of vaccination, which had been approved for adult vaccination by both State and Federal officials in accordance with the Uniform Methods and Rules.

The official adult vaccinate would be required to be permanently identified with an official metal eartag or registration tattoo and have been hot-iron branded AV on the right jaw at the time of vaccination. This definition would be consistent with the provisions relating to official adult vaccinates as used in the Brucellosis Eradication Uniform Methods and Rules. Such provisions are believed necessary to identify such animals as adult vaccinates.

The proposed definition of the term, "official seal" includes a description of a serially numbered, metal strip consisting of a self-locking device on one end and a slot on the other end, which forms a loop when the ends are engaged, and which cannot be reused if opened. Such seals should be adequate to insure that a vehicle moving cattle has not been diverted and other cattle substituted.

Sections 78.9(a), 78.9(b) (1), (2), (3) (ii) and (iii), and 78.10 (a) and (b), and 78.17 of the existing regulations require that certain cattle or bison be accompanied by an owner's statement or other document when moved interstate. The proposal would provide for these cattle or bison to move interstate without such documents being required under Part 78. It has been determined that it may no longer be necessary to require under Part 78 that such documents accompany certain cattle or bison moving interstate. The information on the documents required under other parts of the regulations, for example Part 71, should remove the necessity for any reference to these documents in Part 78 for such cattle. it should be noted that Part 71 has less application than Part 78. Specifically, Part 71 applies to all cattle two years of age or older except steers and spayed heifers. Part 78 applies to cattle except steers and spayed heifers greater that 6 months of age. Therefore, cattle between 0-2 years of age and spayed heifers less than 6 months of age are currently required to have an owner's statement under Part 78 for an interstate movement, and not under Part 71. The proposed regulations would remove the requirement that an owner's statement accompany the interstate movement of such cattle or bison under Part 78 because it appears that such animals constitute a small threat to spread brucellosis, and therefore, their movement should be less regulated than animals which constitute a significant threat to spread brucellosis.

The existing regulations also require that certain cattle be consigned for immediate slaughter to slaughtering establishments operating under the provisions of the Federal Meat Inspection Act or to specifically approved slaughtering establishments. Specifically approved slaughtering establishments are slaughtering establishments operating under the provisions of State Meat Inspection Laws and must be specifically approved by the Deputy Administrator to receive certain cattle interstate. It appears that all slaughtering establishments operating under the provisions of State Meat Inspection Laws should be adequately equipped to handle all classes of cattle in a manner to effectuate the purposes of the brucellosis regulations. Therefore, this proposal would delete the requirement for and references to approval of specifically approved slaughtering establishments and would provide for the movement of any classes of cattle to any slaughtering establishment operating under Federal or State Meat Inspection authority. Consequently § 78.24(b) would be deleted, and all references to slaughtering establishments would be deleted in § 78.25.

This proposal would provide additional methods of moving brucellosis-exposed cattle interstate directly to a quarantined feedlot, or slaughtering establishment operating under Federal or State inspection, and directly to and through no more than one specifically approved stockyard. This proposal would make the regulations consistent with the recent changes in the brucellosis eradication Uniform Methods and Rules used to conduct the Cooperative State-Federal Brucellosis Eradication Program in each State. The regulations now require brucellosis-exposed cattle to be identified by a Veterinary Services approved metal eartag, by an "S" branded on the left jaw, and be accompanied by a permit. The proposed regulations would provide for an alternate site for the "S" brand which would be consistent with the Uniform Methods and Rules used to control exposed cattle movement within the States. The United States Animal Health Association, which recommends changes for the Uniform Methods and Rules, determined that it is difficult to apply the "S" brand to the jaw of the animal and it should be easier to apply the brand to the tailhead of the animal.

Further, the proposed amendments to the regulations would recognize the AV on the right jaw of the official adult vaccinates in lieu of the "S" brand requirements. This would also conform with the Uniform Methods and Rules. The proposed regulation would also allow "B" branding of brucellosis-exposed cattle to have the regulations in this part and Part 51 conform.

Additionally, the proposed amendments to the regulations would waive the "S" branding requirements for cattle which are individually identified and are moved to slaughter in a closed vehicle sealed with official seals and accompanied by a permit. The waiving of the branding requirement should facilitate the movement of these cattle. The sealing of the vehicles and the requiring of the permit and restricting the movement to slaughter should be adequate to prevent the spread of brucellosis. This would also bring the regulations into conformity with the Uniform Methods and Rules.

The provisions of the regulations which apply to the interstate movement of brucellosis reactor cattle (9 CFR 78.7), brucellosis-exposed cattle (9 CFR 78.8 (a) and (b)), cattle from herds not known to be affected with brucellosis in a Modified Certified Brucellosis Area (9 CFR 78.9(b) (1) and (2)), cattle from qualified herds in any noncertified area (9 CFR 78.10 (a), (b), and (c)), cattle from herds of unknown status in any noncertified area (9 CFR 78.11), cattle from a quarantined area (9 CFR 78.12a(d) (1), (2), and (3)), brucellosis reactor bison (9 CFR 78.15), brucellosis-exposed bison (9 CFR 78.16 (a) and (b)), and bison from herds not known to be affected with brucellosis from any area (9 CFR 78.17 (a) and (b)), appear to require revision to insure uniform interpretation of applicable requirements by those persons affected by the regulations. The intent of the Animal and Plant Health Inspection Service is to provide for the movement of cattle and bison either directly from a farm of origin to slaughter or to a quarantined feedlot, or directly from a farm of origin through no more than one specifically approved stockyard and then direct to slaughter or to a quarantined feedlot. Various interpretations have arisen concerning the requirements for movement as specified in these regulations by persons moving cattle and have resulted in a lack of uniformity of interpretation as to what constitutes compliance with existing requirements. The proposed changes would specifically require that cattle moved under the said sections would move either directly from a farm of origin to immediate slaughter or to a quarantined feedlot or directly from a farm of origin through no more than one specifically approved stockyard and then to immediate slaughter or to a quarantined feedlot.

The proposed amendments to the regulations would also revise § 78.9(b) (1) and (2) to authorize the movement of cattle from herds not known to be affected with brucellosis in a Modified Certified Brucellosis Area to move from other than a farm of origin to a recognized slaughtering establishment or a quarantined feedlot if accompanied by a permit. Presently, such cattle from premises other than a farm of origin, such as unapproved livestock markets, dealers' assembly pens, and slaughtering plant order buyers' assembly pens, are required to be tested negative to an official test for brucellosis within 30 days of the movement and be accompanied by a certificate. Such an amendment to the regulations should ease the disposition of such animals under adequate means to trace the origin of such animals without undue risk of the spread of brucellosis. Such a permit will have the information necessary to trace the origin of such animals.

The proposed regulations would also amend § 78.9(b)(3) to revise the exceptions to the 30-day official test for brucellosis for cattle moving interstate from a Modified Certified Brucellosis Area. Under the revised exception cattle in a Modified Certified Brucellosis Area may move interstate other than in accordance with the provisions of § 78.9(b) (1) or (2) without being tested within 30 days prior to such interstate movement if: such cattle originate from herds in which all the cattle were subject to a complete herd test for brucellosis in accordance with the Uniform Methods and Rules within 12 months of the date of the interstate movement; any cattle which were added to the herd subsequent to such complete herd test were tested and found negative to an official test for brucellosis within 30 days prior to the date the cattle were added to the herd; the cattle subject to the complete herd test have not changed ownership from the date of such a negative test to the date of the interstate movement; and none of the cattle in the herd have come in contact with any other cattle which have not been tested as prescribed in this exception. A complete herd test within 12 months would be required because the disease status of the entire herd must be established within the prior 12-month period to allow the cattle to move interstate without requiring a negative brucellosis test within 30 days prior to such movement.

Additions of cattle to the herd would be required to be tested and found negative to an official test for brucellosis within 30 days prior to joining the herd because their disease status must be established before they are added to the herd with the negative test with the prior 12 months. This should help insure that brucellosis does not enter the herd through additions of cattle to the herd.

The cattle which were subject to the complete herd test would be required to not have changed ownership from the date of such complete negative herd test to the date of the interstate movement because the purpose of this provision would be to provide some flexibility in the regulation for herd owners that routinely have a need to regularly move cattle interstate due to their normal operations of herd management and should not extend to cattle that have changed ownership or otherwise been placed in normal trade channels.

Further, none of the cattle could have contact with any other cattle which have not been tested as prescribed in this exception because the cattle should not be exposed to cattle of an unknown or lesser disease status. This should reduce the risk of the cattle becoming diseased with brucellosis.

This exception has been rewritten to lessen the burden of testing for brucellosis for cattle which are moved interstate from pasture to pasture, as occurs with grazing associations. Without this exception such cattle would be required to be tested within 30 days of the date of each interstate movement. Due to the fact that frequently these cattle move every 30 days, such cattle could have 12 official tests for brucellosis required per year without this exception. The Department believes that this exception should lessen the burden of testing the cattle involved without unduly increasing the risk of disseminating brucellosis.

The proposed regulations would also revise § 78.9(b)(3)(iii) to delete the proviso to the last exception in that subparagraph. The proviso makes that exception inapplicable when the cattle to be moved interstate have been commingled with any other cattle of the breeds described in paragraph (b)(3)(ii) of § 78.9, which have not been officially tested and found negative for brucellosis within 12 months prior to the date that the cattle are commingled. This proviso would be deleted because the proposed regulations in § 78.9(b)(3)(v)(D) would prohibit the interstate movement of cattle that have come in contact with any other cattle which have not been brucellosis tested within 12 months or within 30 days prior to their addition to the herd.

It should be noted that §§ 78.8(c), 78.9(b)(3), 78.10(c), 78.12a(d)(3) and 78.17(c), would be amended by these proposed regulations. Presently these regulations establish conditions for moving cattle or bison for feeding, breeding or for purposes other than slaughter or to other than a quarantined feedlot. This concept of focusing on the purpose of the movement would be changed in the proposed regulations. The proposed regulations would authorize movements other than in accordance with the provisions of prior paragraphs or subparagraphs of the applicable sections. The purpose of the movement would not be the determinative factor for determining the requirements necessary to move the cattle or bison interstate. The administrative officials of the Animal and Plant Health Inspection Service believe that the conditions established in proposed §§ 78.8(c), 78.9(b)(3), 78.10(c), 78.12a(d)(3) and 78.17(c) should be adequate to prevent the spread of communicable diseases of livestock regardless of the purpose of the movement.

§ 78.10(c)(3) would be revised by requiring that test results appear on the certificate used to move the cattle interstate. Having the test results appear on the certificate should help insure that the cattle being moved interstate have been tested negative for brucellosis.

Further, footnotes 1 and 2 in Part 78 would be revised to reflect the incorporation by reference of the current Uniform Methods and Rules. Additionally, certain nonsubstantive editorial changes have been made.

Accordingly, Part 78, Title 9, Code of Federal Regulations, would be amended in the following respects:

1. In § 78.1, paragraphs (w), (y), and (dd) would be deleted; paragraph (x) would be redesignated as paragraph (w), paragraph (z) would be redesignated as paragraph (x), paragraph (aa) would be redesignated as paragraph (y), paragraph (bb) would be redesignated as paragraph (z), paragraph (cc) would be redesignated as paragraph (aa), paragraph (ee) would be redesignated as paragraph (bb), and new paragraphs (cc), (dd), (ee), and (pp) would be added to read:

§ 78.1 Definitions.

* * * * *

(cc) *Farm of origin.* A farm or other premises where the cattle to be shipped interstate were born or have been kept for not less than 4 months prior to the date of shipment and which within the 4 months prior to the date of shipment, have not been used to assemble cattle from any other premises.

(dd) *Recognized slaughtering establishment.* Any slaughtering establishment operating under the provisions of the Federal Meat Inspection Act (21 U.S.C. 601 *et seq.*) or a State Meat Inspection Act.

(ee) *Official adult vaccinate.* A female bovine animal of a dairy breed over 6 months of age (180 days), or a female bovine animal of a beef breed over 10 months of age (300 days) which has been vaccinated with an approved brucella vaccine in accordance with the Uniform Methods and Rules.[1,2] The vaccination shall be conducted under the supervision of a Federal or State veterinary official and the vaccination shall be preceded by a negative official test for brucellosis conducted no more than 10 days prior to the vaccination. At the time of vaccination, the animal must be a member of, or be an addition to a herd known to be affected and approved for adult vaccination by both State and Federal officials. The official adult vaccinate shall be permanently identified with an official metal eartag or registration tattoo and be hot-iron branded "AV" on the right jaw at the time of vaccination.

* * * * *

(pp) *Official seal.* A serially numbered, metal strip, consisting of a self-locking device on one end and a slot on the other end, which forms a loop when the ends are engaged, which cannot be reused if opened, and is applied by a representative of the Veterinarian in Charge or the State animal health official.

2. In § 78.7, the introductory paragraph would be amended to read:

§ 78.7 Brucellosis reactor cattle.

Brucellosis reactor cattle may only be moved interstate for immediate slaughter directly to a recognized slaughtering establishment or from a farm of origin directly to no more than one specifically approved stockyard and then directly to such a recognized slaughtering establishment and only in accordance with the following requirements:

* * * * *

3. In § 78.8, paragraphs (a), (b), and the heading in paragraph (c) would be amended to read:

§ 78.8 Brucellosis-exposed cattle.

Except as provided in Part 51 of the regulations, brucellosis-exposed cattle may be moved interstate only as follows:

(a) *Movement of brucellosis-exposed cattle to quarantined feedlots.* Such cattle are moved directly to a quarantined feedlot or from a farm of origin directly through no more than one specifically approved stockyard and then directly to a quarantined feedlot, and only if such cattle are:

(1) individually identified by a Veterinary Services approved metal eartag;

(2) accompanied by a permit; and

(3) such cattle are:

(i) hot-iron branded with an "S" on the left jaw or high on the tailhead, so as to be visible from ground level, in letters not less than 2 nor more than 3 inches high, before the animals leave the premises from which they move interstate, or

(ii) officially adult vaccinated cattle and have been hot-iron branded "AV" on the right jaw.

If the movement is directly to a specifically approved stockyard for sale and shipment to a quarantined feedlot, a separate permit shall be required for the subsequent interstate movement of such cattle from any such stockyard directly to a quarantined feedlot; or

(b) *Movement of brucellosis-exposed cattle for immediate slaughter.* Such cattle are moved directly to a recognized slaughtering establishment, or from a farm of origin directly through no more than one specifically approved stockyard and then directly to a recorgnized slaughtering establishment, only if such cattle are:

(1) individually identified by a Veterinary Services approved metal eartag;

(2) accompanied by a permit; and

(3) such cattle are:

(i) hot-iron branded with an "S" on the left jaw or high on the tailhead so as to be visible from ground level in letters not less than 2 nor more than 3 inches high, before the animals leave the premises from which they move interstate, or

(ii) in the instances when a claim for indemnity is being made by the owner under the provisions of 9 CFR 51.3(a)(2), (3), or (4), brucellosis exposed cattle are identified with the letter "B" as prescribed in 9 CFR 51.5(b), or

(iii) officially adult vaccinated cattle and have been hot-iron branded "AV" on the right jaw, or

(iv) moved in vehicles closed with official seals.

Official seals shall only be applied or removed by a Veterinary Services representative, State representative, accredited veterinarian or by other persons authorized for this purpose by a Veterinary Services representative. If the movement is directly to a specifically approved stockyard and then to a recognized slaughtering establishment, a separate permit shall be required for the subsequent interstate movement of such cattle from such stockyard directly to such slaughtering establishment; or

(c) *Movement of brucellosis exposed cattle other than in accordance with paragraphs (a) or (b) of this section.*

4. In § 78.9, paragraphs (a) and (b) would be amended to read:

§ 78.9 Cattle from herds not known to be affected with brucellosis.

Cattle from herds not known to be affected with brucellosis may be moved interstate from specified areas only as follows:

(a) *Certified Brucellosis-Free Areas.* If such cattle are in a Certified Brucellosis-Free Area, they may be moved interstate without restrictions under this subpart.

(b) *Modified Certified Brucellosis Areas.* If such cattle are in a Modified Certified Brucellosis Area, they may only be moved interstate from such area under the conditions specified in one or more of the following subparagraphs:

(1) *Movement for immediate slaughter.* Such cattle may be so moved for immediate slaughter directly from a farm of origin to a recognized slaughtering establishment or directly from a farm of origin through no more than one specifically approved stockyard and then directly to a recognized slaughtering establishment. Such cattle moving other than directly from a farm of origin may be moved interstate directly to a recognized slaughtering establishment if accompanied by a permit.

(2) *Movement to quarantined feedlots.* Such cattle may be moved to a quarantined feedlot directly from a farm of origin or directly from a farm of origin through no more than one specifically approved stockyard and then directly to a quarantined feedlot. Such cattle moving other than directly from a farm of origin may be moved interstate directly to a quarantined feedlot if accompanied by a permit.

(3) *Movement other than in accordance with paragraphs (b)(1) and (2) of this section.* Such cattle may be moved interstate other than in accordance with paragraphs (b)(1) and (2) of this section only if:

(i) Such cattle originate in Certified Brucellosis-Free herds and they are accompanied by a certificate, which states, in addition to the items specified in § 78.1(u), that the cattle originated in a Certified Brucellosis-Free Herd; or

(ii) Such cattle are of the beef breeds under 24 months of age and of other breeds under 20 months of age which are not parturient (springers) or post parturient, then they may be so moved without restriction under this subpart; or

(iii) Such cattle are accompanied by a certificate, are subjected to an official test for brucellosis and found negative for brucellosis within 30 days prior to such interstate movement and the certificate shows in addition to the items required under § 78.1(u), the test dates and results of the official brucellosis tests; or

(iv) Such cattle are moved directly from a farm of origin to a specifically approved stockyard and the shipper causes such cattle to be subjected to an official test for brucellosis upon arrival at such stockyard prior to losing their identity with the farm of origin; or

(v) Such cattle: (A) originate from herds in which all the cattle were subjected to a complete herd test for brucellosis in accordance with the Uniform Methods and Rules within 12 months of the date of the interstate movement; (B) any cattle which were added to the herd subsequent to such complete herd test were tested and found negative to an official test for brucellosis within 30 days prior to the date the cattle were added to the herd; (C) the cattle subject to the complete herd test have not changed ownership from the date of such test; and (D) none of the cattle in the herd have come in contact with any other cattle which have not been tested as prescribed in this subparagraph.

5. In § 78.10, paragraphs (a), (b), and paragraph (c) up to the colon, would be amended to read:

§ 78.10 Cattle from qualified herds.

Cattle from qualified herds in any noncertified area may be moved interstate only as follows:

(a) *Movement for immediate slaughter.* Such cattle are moved directly to a recognized slaughtering establishment, or directly from a farm of origin through no more than one specifically approved stockyard and then directly to a recognized slaughtering establishment; or

(b) *Movement to quarantined feedlots.* Such cattle are moved directly to a quarantined feedlot, or directly from a farm of origin through no more than one specifically approved stockyard and then directly to a quarantined feedlot; or

(c) *Movement other than in accordance with paragraphs (a) or (b) of this section.* Such cattle may be moved other than in accordance with paragraphs (a) or (b) of this section only if:

(1) Such cattle originate in Certified Brucellosis-Free herds and they are accompanied by a certificate which states, in addition to the items specified in § 78.1(u) that the cattle originated in a Certified Brucellosis-Free herd; or

(2) Such cattle are official vaccinates of the beef breeds under 24 months of age and of other breeds under 20 months of age and are accompanied by a certificate; or

(3) such cattle except calves under 6 months of age, have been subjected to an official test for brucellosis not less than 30 days after the date of the last qualifying herd test and not more than 30 days before the date of the interstate movement, and such cattle are accompanied by a certificate which shows, in addition to the items required under § 78.1(v), the dates and results of any official test required by this paragraph.

6. § 78.11 would be amended to read:

§ 78.11 Cattle from herds of unknown status.[3]

Cattle which originate in herds of unknown status in any noncertified area may be moved interstate only if accompanied by a permit and moved directly to a recognized slaughtering establishment or directly to be quarantined feedlot, or directly from a farm of origin through no more than one specifically approved stockyard and then directly to a quarantined feedlot or such a slaughtering establishment.

7. In § 78.12a, paragraphs (d)(1), (2), and (3) would be amended to read:

§ 78.12a Cattle from quarantined areas.

* * * * *

(d) *Movement from qualified herds.* Cattle from qualified herds in any quarantined area may be moved interstate only as follows:

(1) *Movement for immediate slaughter.* (i) Such cattle may move for immediate slaughter directly from a farm of origin to a recognized slaughtering establishment or directly from a farm of origin through no more than one specifically approved stockyard and then directly to a recognized slaughtering establishment and they are accompanied by a certificate, are subjected to an official test for brucellosis and found negative within 30 days prior to such interstate movement and the certificate shows, in addition to items required under § 78.1(u), the test dates and results of the official brucellosis test; or (ii) Such cattle are moved in accordance with the provisions of § 78.8(b); or

(2) *Movement to quarantined feedlots.* (i) Such cattle may move to a quarantined feedlot directly from a farm of origin or directly from a farm of origin through no more than one specifically approved stockyard and then directly to a quarantined feedlot if they are accompanied by a certificate, are subjected to an official test for brucellosis and found negative within 30 days prior to such interstate movement and the certificate shows, in addition to items required under § 78.1(u), the test dates and results of the official brucellosis test; or (ii) Such cattle are moved in accordance with the provisions of § 78.8(a).

(3) *Movement other than in accordance with paragraphs (d) (1) or (2) of this section.* Such cattle may be moved other than in accordance with paragraphs (d) (1) or (2) of this section, either directly from a farm of origin or through no more than one specifically approved stockyard, if the cattle are accompanied by a certificate and the cattle, except official vaccinates less than 12 months of age and calves less than 6 months of age, are subjected to an official test for brucellosis and found negative within 30 days prior to such interstate movement, and the certificate shows, in addition, to items required under § 78.1(u), the test dates and results of the official brucellosis test.

8. In § 78.15, the introductory paragraph would be amended to read:

§ 78.15 Brucellosis reactor bison.

Brucellosis reactor bison may only be moved interstate for immediate slaughter directly to a recognized slaughtering establishment or directly from a farm of origin through no more than one specifically approved stockyard and then directly to such a slaughtering establishment, and only in accordance with the following requirements:

* * * * *

9. In § 78.16, paragraphs (a) and (b) would be amended to read:

§ 78.16 Brucellosis exposed bison.

Brucellosis exposed bison may be moved interstate from any area only as follows:

(a) *Movement of brucellosis exposed bison to quarantined feedlots.* Such bison are moved directly to a quarantined feedlot or directly from a farm of origin through no more than one specifically approved stockyard and then directly to a quarantined feedlot. Such bison shall be accompanied by a permit. If the movement is through a specifically approved stockyard to a quarantined feedlot, a separate permit shall be required for the subsequent interstate movement of the bison from the stockyard to the quarantined feedlot, or

(b) *Movement of brucellosis-exposed bison for immediate slaughter.* Such bison are moved directly to a recognized slaughtering establishment or directly from a farm of origin through no more than one specifically approved stockyard and then directly to such a slaughtering establishment. Such bison shall be accompanied by a permit. If the movement is through a specifically approved stockyard to a slaughtering establishment, a separate permit shall be required for the subsequent interstate movement of the bison from the stockyard to the recognized slaughtering establishment.

10. In § 78.17, paragraphs (a), (b), and paragraph (c) up to the colon, would be amended to read:

§ 78.17 Bison from herds not known to be affected with brucellosis.

Bison from herds not known to be affected with brucellosis may be moved interstate from any area only as follows:

(a) *Movement for immediate slaughter.* Such bison are so moved for immediate slaughter, or

(b) *Movement to quarantined feedlot.* Such bison are so moved to a quarantined feedlot.

(c) *Movement other than in accordance with paragraphs (a) or (b) of this section.* Such bison may be moved other than in accordance with paragraphs (a) or (b) of this section only as follows:

* * * * *

11. In § 78.17(c)(4), the period at the end of the sentence would be deleted and the phrase "and the results of the official brucellosis test." would be added in lieu thereof.

12. In Subpart D, the heading would be amended to read:

Subpart D—Designation of Brucellosis Areas and Specifically Approved Stockyards

§ 78.24 [Amended]

13. Section 78.24(b) would be deleted.

14. In § 78.25, the last two sentences of paragaraph (b) would be deleted and paragraph (c) would be amended to read:

§ 78.25 Designation of areas and approved stockyards.

* * * * *

(c) Before the Deputy Administrator withdraws specific approval and removes any specifically approved stockyard from the approved lists, the owner of such establishment shall be given notice by the Deputy Administrator of the charges against him and shall have an opportunity to present his views thereon. In those instances where there is a conflict as to the facts, a hearing shall be held to resolve such conflicts.

15. In Part 78, footnotes 1 and 2 would be amended to read:

[1] Copies of the July 1977 Recommended Brucellosis Eradication Uniform Methods and Rules (APHIS 91-1) are available upon request from Veterinary Services, Animal and Plant Health Inspection Service, United States Department of Agriculture, Federal Building, Hyattsville, MD 20782.

[2] Incorporation by reference provisions approved by the Director, Office of the FEDERAL REGISTER on November 15, 1977.

All written submissions made pursuant to this notice will be made available for public inspection at the Federal Building, 6505 Belcrest Road, Room 805, Hyattsville, MD, during regular hours of business (8 a.m. to 4:30 p.m., Monday to Friday, except holidays) in a manner convenient to the public business (7 CFR 1.27(b)).

Comments should bear a reference to the date and page number of this issue in the FEDERAL REGISTER.

Done at Washington, D.C., this 31st day of January 1979.

NOTE.—This proposal has been reviewed under the USDA criteria established to implement E.O. 12044, "Improving Government Regulations." While this action has not been designated "significant" under those criteria, an approved Draft Impact Analysis Statement has been prepared and is available from Program Services Staff, Room 870, Federal Building, 6505 Belcrest Road, Hyattsville, Maryland 20782, 301-436-8695.

M. T. GOFF,
Acting Deputy Administrator,
Veterinary Services.

[FR Doc. 79-3990 Filed 2-8-79; 8:45 am]

[7590-01-M]

NUCLEAR REGULATORY COMMISSION

[10 CFR Chapter I]

GENERIC RULEMAKING TO IMPROVE NUCLEAR POWER PLANT LICENSING

Interim Policy Statement; Extension of Comment Period

AGENCY: U.S. Nuclear Regulatory Commission.

ACTION: Extension of comment period.

SUMMARY: The Nuclear Regulatory Commission is extending the public comment period on its Interim Policy Statement regarding Generic Rulemaking to Improve Nuclear Power Plant Licensing for an additional 30 days. The Interim Policy Statement was published on December 14, 1978 (43 FR 58377). The original comment period would have expired February 12, 1979. Further information regarding generic rulemaking issues and staff deliberations is found in NUREG-0499, "Preliminary Statement on General Policy for Rulemaking to Improve Nuclear Power Plant Licensing". Supplement No. 1 to NUREG-0499 contains information on "General Considerations and Issues of Significance on the Evaluation of Alternative Sites for Nuclear Generating Stations Under NEPA". Copies of these documents are available by writing to the Distribution Services Branch, Division of Technical Information and Document Control, U.S. Nuclear Regulatory Commission, Washington, D.C. 20555.

DATE: New comment period expires: March 14, 1979.

ADDRESSES: Written comments or suggestions for consideration in connection with the proposed Interim Statement on Rulemaking Policy should be submitted to the Secretary of the Commission, U.S. Nuclear Regulatory Commission, Washington, D.C. 20555, Attention: Docketing and Service Branch.

FOR FURTHER INFORMATION CONTACT:

Dr. Miller B. Spangler, Office of Nuclear Reactor Regulation, Division of Site Safety and Environmental Analysis, U.S. Nuclear Regulatory Commission, Washington, D.C. 20555, telephone 301/492-7305.

Dated at Washington, D.C., this 5th day of February 1979.

For the Nuclear Regulatory Commission.

SAMUEL J. CHILK,
Secretary of the Commission.

[FR Doc. 79-4477 Filed 2-8-79; 8:45 am]

[6450-01-M]

DEPARTMENT OF ENERGY

[10 CFR Part 790]

FEDERAL LOAN GUARANTEES FOR GEOTHERMAL ENERGY UTILIZATION

Proposed Rulemaking; Cancellation of Public Hearing

AGENCY: Department of Energy.

ACTION: Proposed rulemaking; cancellation of public hearing.

SUMMARY: On January 5, 1979, 44 FR 1568 the Department of Energy (DOE) proposed regulations to revise 10 CFR Part 790 published on May 26, 1976, to conform with provisions in Title V of the "Department of Energy Act of 1978—Civilian Applications," Public Law 95-238 enacted February 25, 1978. In the same notice, DOE announced that public hearings would be held on February 13, 1979, in San Francisco, California, and on February 21, 1979, in Dallas, Texas, for the purpose of accepting oral comments on the proposed regulations. Because only one request to speak at each location was made, DOE has determined, after consultation with the requesting parties, that the public hearing will not be necessary. Accordingly, the hearings previously scheduled for February 13 and 21, 1979, are cancelled.

DATES: DOE will continue to accept written comments on the proposed regulations for Federal loan guarantees for geothermal energy utilization until March 6, 1979. Details regarding the proposed regulations and written comment procedures appear in the original FEDERAL REGISTER NOTICE 44 FR 1568 (January 5, 1979).

FOR FURTHER INFORMATION CONTACT:

Lawrence Falick, Department of Energy, Washington, D.C. 20461, 202-633-8912.

Issued in Washington, D.C., February 6, 1979.

GEORGE S. MCISAAC,
Assisant Secretary,
Resource Applications.

[FR Doc. 79-4630 Filed 2-8-79; 8:45 am]

[4810-22-M]

DEPARTMENT OF THE TREASURY

Customs Service

[19 CFR Part 101]

GENERAL PROVISIONS

Proposed Change in the Field Organization of the Customs Service

AGENCY: U.S. Customs Service, Department of the Treasury.

ACTION: Proposed rule.

SUMMARY: This notice proposes to change the field organization of the Customs Service by extending the existing port limits of the Brownsville, Texas, port of entry (Region VI) to incorporate all of Cameron County, Texas, and to change the name of the port to "Cameron County". The proposed change would enable Customs to keep pace with a significant expansion of Customs-related activities in the county, particularly at Harlingen Airport, where there have been recurring requests for Customs services. The proposed change is part of Customs continuing program to obtain more efficient use of its personnel, facilities, and resources, and to provide better service to carriers, importers, and the public.

DATES: Comments must be received on or before April 10, 1979.

ADDRESS: Comments (preferably in triplicate) may be addressed to the Commissioner of Customs, Attention: Regulations and Legal Publications Division, U.S. Customs Service, 1301 Constitution Avenue NW., Room 2335, Washington, D.C. 20229.

FOR FURTHER INFORMATION CONTACT:

Robert Schenarts, Inspection and Control Division, U.S. Customs Service, 1301 Constitution Avenue NW., Washington, D.C. 20229 (202-566-8151).

SUPPLEMENTARY INFORMATION:

BACKGROUND

During the past several years, there has been significant growth in the population and economy of the area in and around the lower Rio Grande Valley, just north of the boundary between Texas and the State of Tamaulipas in Mexico. As part of this growth, there has been a significant expansion of the needs of the importing community elsewhere in Cameron County, Texas, for Customs services now provided by the port of entry at Brownsville.

There have been recurring requests for Customs service at Harlingen Airport, located in Cameron County, and beginning in December 1978, daily flights from and to Mexico City, Mexico, averaging 75 passengers per flight, began arriving at and departing from Harlingen Airport. In addition, it is anticipated that a further increase in trade and vehicle traffic in the area will require the completion of new bridge crossings on the Rio Grande in the near future.

To provide the most economical and efficient service to the public and to meet the expanded needs of the importing community in Cameron County, Customs proposes to extend the existing port limits of the Brownsville, Texas, port of entry (Region VI) to include all of Cameron County, Texas, and to change the name of the expanded port to "Cameron County".

The proposed extension of the port limits would enable Customs to keep pace with the expansion of Customs-related activities in Cameron County, particularly at Harlingen Airport, and to provide better coordination of Customs services and more efficient use of available resources. While the port office would remain at Brownsville, and there would be no change in staffing or management, these changes, including the change in name, would reflect more adequately the administration of Customs activities in the area.

As extended, the geographical boundaries of the proposed "Cameron County" port of entry would include:

> All the territory within the geographical limits of Cameron County, Texas.

If the proposed changes are adopted, the list of Customs regions, districts, and ports of entry in § 101.3(b), Customs Regulations (19 CFR 101.3(b)), would be amended accordingly.

COMMENTS

Before adopting this proposal, consideration will be given to any written comments submitted to the Commissioner of Customs. Comments submitted will be available for public inspection in accordance with § 103.8(b), Customs Regulations (19 CFR 103.8(b)), during regular business hours at the Regulations and Legal Publications Division, Room 2335, Headquarters, U.S. Customs Service, 1301 Constitution Avenue NW., Washington, D.C. 20229.

AUTHORITY

This change is proposed under the authority vested in the President by section 1 of the Act of August 1, 1914, 38 Stat. 623, as amended (19 U.S.C. 2), and delegated to the Secretary of the Treasury by Executive Order No. 10289, September 17, 1951 (3 CFR 1949-1953 Comp., Ch. II), and pursuant to authority provided by Treasury Department Order No. 190, Rev. 15 (43 FR 11884).

DRAFTING INFORMATION

The principal author of this document was Harold M. Singer, Regulations and Legal Publications Division, Office of Regulations and Rulings, U.S. Customs Service. However, personnel from other Customs offices participated in its development.

Dated: January 26, 1979.

RICHARD J. DAVIS,
Assistant Secretary of the Treasury.

[FR Doc. 79-4481 Filed 2-8-79; 8:45 am]

[4210-01—M]

DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT

Federal Insurance Administration

[24 CFR Part 1917]

[Docket No. FI-5132]

NATIONAL FLOOD INSURANCE PROGRAM

Proposed Flood Elevation Determination for the city of Ontario, San Bernardino County, Calif.

AGENCY: Federal Insurance Administration, HUD.

ACTION: Proposed rule.

SUMMARY: Technical information or comments are solicited on the proposed base (100-year) flood elevations listed below for selected locations in the City of Ontario, San Bernardino County, California. These base (100-year) flood elevations are the basis for the flood plain management measures that the community is required to either adopt or show evidence of being already in effect in order to qualify or remain qualified for participation in the national flood insurance program (NFIP).

DATE: The period for comment will be ninety (90) days following the second publication of this proposed rule in a newspaper of local circulation in the above-named community.

ADDRESS: Maps and other information showing the detailed outlines of the flood-prone areas and the proposed base (100-year) flood elevations are available for review at City Engineer's Office, City Hall, 225 South Euclid Avenue, Ontario, California. Send comments to: Mr. Roger Hughbanks, City Manager, City of Ontario, City Hall, 225 South Euclid Avenue, Ontario, California 91761.

FOR FURTHER INFORMATION CONTACT:

Mr. Richard Krimm, Assistant Administrator, Office of Flood Insurance, Room 5270, 451 Seventh Street SW., Washington, D.C. 20410, 202-755-5581 or toll-free line 800-424-8872.

SUPPLEMENTARY INFORMATION: The Federal Insurance Administrator gives notice of the proposed determinations of base (100-year) flood elevations for the City of Ontario, California, in accordance with section 110 of the Flood Disaster Protection Act of 1973 (Pub. L. 93-234), 87 Stat. 980, which added section 1363 to the National Flood Insurance Act of 1968 (Title XIII of the Housing and Urban Development Act of 1968 (Pub. L. 90-448)), 42 U.S.C. 4001-4128, and 24 CFR 1917.4(a).

These elevations, together with the flood plain management measures required by § 1910.3 of the program regulations, are the minimum that are required. They should not be construed to mean the community must change any existing ordinances that are more stringent in their flood plain management requirements. The community may at any time enact stricter requirements on its own, or pursuant to policies established by other Federal, State, or regional entities. These proposed elevations will also be used to calculate the appropriate flood insurance premium rates for new buildings and their contents and for the second layer of insurance on existing buildings and their contents.

The proposed base (100-year) flood elevations for selected locations are:

Source of flooding	Location	Depth, feet above ground
San Antonio Drain.	Intersection of San Antonio Avenue and H Street.	1
	Intersection of Fourth Street and San Antonio.	1
	Intersection of Sixth Street and San Antonio Avenue.	1
West Cucamonga Creed.	Along Airport Street east of Mildred Avenue.	2
	Intersection of Imperial Street and State Street.	1
	Intersection of Alameda Avenue and G Street.	1
	Intersection of Fifth Street and Grove Avenue.	1
Cucamonga Creek.	Intersection of Hellman Avenue and Francis Street.	1
	Along Hellman Avenue which runs into Mission Boulevard.	1
	Intersection of Vineyard Avenue and Airport Street.	1
Old Deer Creek Channel.	Arcadian Shores Drive of Hazeltine Street.	1
Old Deer Creek	North of Pomona Freeway on Turner Avenue.	1
	North of Mission Boulevard and east of Turner Avenue.	1
	Intersection of Milliken Avenue and Philadelphia Street.	2

Source of flooding	Location	Depth, feet above ground
Ontario Motor Speedway Drain.	South of San Bernardino Freeway between Haven Avenue and Milliken Avenue.	1
	Along Rochester Avenue between Fourth and G Streets.	1

Source of flooding	Location	Elevation, in feet, national geodetic vertical datum
Magnolia Avenue Drain.	North side of Pomona Freeway between Magnolia Avenue and Palmetto Avenue and just south of Philadelphia Street.	
Old Deer Creek	North of Pomona Freeway and west of Haven Avenue.	823
Ontario Motor Speedway Drain.	North of Airport Drive *between Haven Avenue and Milliken Avenue.	962
	North of San Bernardino Freeway between Haven Avenue and Milliken Avenue.	985
East Etiwanda Creek.	West of Etiwanda Avenue south of San Bernardino Freeway.	986
San Antonio Drain.	Intersection of Main Street and San Antonio Avenue.	983
	Intersection of Emporia Street and Cypress Avenue.	988

(National Flood Insurance Act of 1968 (Title XIII of Housing and Urban Development Act of 1968), effective January 28, 1969 (33 FR 17804, November 28, 1968), as amended (42 U.S.C. 4001-4128); and Secretary's delegation of authority to Federal Insurance Administrator, 43 FR 7719.)

In accordance with Section 7(o)(4) of the Department of HUD Act, Section 324 of the Housing and Community Amendments of 1978, P.L. 95-557, 92 Stat. 2080, this proposed rule has been granted waiver of Congressional review requirements in order to permit it to take effect on the date indicated.

Issued: January 31, 1979.

GLORIA M. JIMENEZ,
Federal Insurance Administrator.

[FR Doc. 79-4322 Filed 2-8-79; 8:45 am]

[4210-01—M]

[24 CFR Part 1917]

[Docket No. FI-5133]

NATIONAL FLOOD INSURANCE PROGRAM

Proposed Flood Elevation Determination for Weld County, Colo.

AGENCY: Federal Insurance Administration, HUD.

ACTION: Proposed rule.

SUMMARY: Technical information or comments are solicited on the proposed base (100-year) flood elevations listed below for selected locations in Weld County, Colorado. These base (100-year) flood elevations are the basis for the flood plain management measures that the community is required to either adopt or show evidence of being already in effect in order to qualify or remain qualified for participation in the national flood insurance program (NFIP).

DATE: The period for comment will be ninety (90) days following the second publication of this proposed rule in a newspaper of local circulation in the above-named community.

ADDRESS: Maps and other information showing the detailed outlines of the flood-prone areas and the proposed base (100-year) flood elevations are available for review at County Planner's Office, Department of Planning Services, Weld County Centennial Building, 915 Tenth Street, Greeley, Colorado. Send comments to: Mr. Norm Carlson, Chairman, Board of County Commissioners, Weld County, P.O. Box 459, Greeley, Colorado 80631.

FOR FURTHER INFORMATION CONTACT:

Mr. Richard Krimm, Assistant Administrator, Office of Flood Insurance, Room 5270, 451 Seventh Street SW., Washington, D.C. 20410, 202-755-5581 or toll-free line 800-424-8872.

SUPPLEMENTARY INFORMATION: The Federal Insurance Administrator gives notice of the proposed determinations of base (100-year) flood elevations for Weld County, Colorado, in accordance with section 110 of the Flood Disaster Protection Act of 1973 (Pub. L. 93-234), 87 Stat. 980, which added section 1363 to the National Flood Insurance Act of 1968 (Title XIII of the Housing and Urban Development Act of 1968 (Pub. L. 90-448)), 42 U.S.C. 4001-4128, and 24 CFR 1917.4(a).

These elevations, together with the flood plain management measures required by § 1910.3 of the program regulations, are the minimum that are required. They should not be construed to mean the community must change any existing ordinances that are more stringent in their flood plain management requirements. The community may at any time enact stricter requirements on its own, or pursuant to policies established by other Federal, State, or regional entities. These proposed elevations will also be used to calculate the appropriate flood insurance premium rates for new buildings and their contents and for the second layer of insurance on existing buildings and their contents.

The proposed base (100-year) flood elevations for selected locations are:

Source of flooding	Location	Elevation in feet, National geodetic vertical datum
South Platte River.	Confluence with the Cache La Poudre River.	4,601
	Weld County Road,50 Feet*.	4,612
	U.S. Highway 34,at centerline.	4,624
	U.S. Highway 34 Bypass, at centerline.	4,627
	37th Street and County Road 54, at centerline.	4,639
	Union Pacific Railroad, at centerline.	4,650
	14th Street, at centerline.	4,886
	State Highway 52-50 feet*.	4,898
U.S. Highway 34 Levee Overflow Channel.	County Road 45½, at centerline.	4,614
	U.S. Highway 34 Levee, at centerline.	4,622
Cache La Poudre River.	Fern Avenue, at centerline.	4,613
	Ash Avenue, 100 feet*.....	4,627
	U.S. Highway 85, at centerline.	4,638
	Union Pacific Railroad, at centerline.	4,645
	25th Avenue, at centerline.	4,662
	35th Avenue and County Road 35-50 Feet*.	4,669
	Colorado and Southern Railroad, 100 feet*.	4,683
	50th Avenue, 100 feet*....	4,691
Sheep Draw	West C Street, 100 feet*.	4,706
	West 47th Street, 150 feet*.	4,725
	U.S. Alternate Highway, 34-150 feet*.	4,744
	71st Avenue, 50 feet*	4,772
	83rd Avenue, 200 feet*....	4,806
	Stock Pond Dam, 75 feet**.	4,824
	Stock Pond Dam, 125 feet*.	4,831
	County Road 58-30 feet**.	4,844
	County Road 58-25 Feet*.	4,852
Ashcroft Draw.......	49th Street, at centerline.	4,678
	Arrowhead Dam, 90 feet**.	4,745
	Arrowhead Dam, 50 feet*.	4,755
	65th Avenue, 80 feet*......	4,762
Eaton Draw...........	6th Avenue, at centerline.	4,647
	U.S. Highway 85-275 feet**.	4,652
	U.S. Highway 85-75 feet*.	4,660
	County Road 64-200 feet*.	4,685
	Union Pacific Railroad (1st crossing), at centerline.	4,690
	Union Pacific Railroad (1st crossing), 185 feet*.	4,700
	County Road 74-150 feet**.	4,802
	County Road 74-50 feet*	4,808
	County Road 75-50 feet*	4,817
	County Road 76-75 feet*	4,837
	Union Pacific Railroad (2nd crossing), 75 feet**.	4,838
	Union Pacific Railroad (2nd crossing), 50 feet*.	4,845

Source of flooding	Location	Elevation in feet, National geodetic vertical datum
Tri-Area Drainageway.	Confluence with Tri-Area Drainageway Overflow Channel.	4,960
	1st Street, at centerline..	4,970
	County Road 14–70 feet**.	5,006
	County Road 14–40 feet*	5,012
Tri-Area Drainageway Overflow Channel.	Confluence with Tri-Area Drainageway.	4,960
	Divergence from Tri-Area Drainageway.	4,970

Source of flooding	Location	Depth, feet above ground
Cache La Poudre River.	750 feet east of the intersection of U.S. Highway 85 and County Road 41.	2
	400 feet north of State Highway 263 between County Roads 43 and 41½.	2

*Upstream from centerline.
**Downstream from centerline.

(National Flood Insurance Act of 1968 (Title XIII of Housing and Urban Development Act of 1968), effective January 28, 1969 (33 FR 17804, November 28, 1968), as amended (42 U.S.C. 4001-4128); and Secretary's delegation of authority to Federal Insurance Administrator, 43 FR 7719.)

In accordance with Section 7(o)(4) of the Department of HUD Act, Section 324 of the Housing and Community Amendments of 1978, P.L. 95-557, 92 Stat. 2080, this proposed rule has been granted waiver of Congressional review requirements in order to permit it to take effect on the date indicated.

Issued: January 31, 1979.

Gloria M. Jimenez,
Federal Insurance Administrator.

[FR Doc. 79-4323 Filed 2-8-79; 8:45 am]

[4210-01-M]

[24 CFR Part 1917]

[Docket No. FI-5134]

NATIONAL FLOOD INSURANCE PROGRAM

Proposed Flood Elevation Determination for the Village of Willowbrook, Du Page County, Ill.

AGENCY: Federal Insurance Administration, HUD.

ACTION: Proposed rule.

SUMMARY: Technical information or comments are solicited on the proposed base (100-year) flood elevations listed below for selected locations in the Village of Willowbrook, Du Page County, Illinois. These base (100-year) flood elevations are the basis for the flood plain management measures that the community is required to either adopt or show evidence of being already in effect in order to qualify or remain qualified for participation in the national flood insurance program (NFIP).

DATE: The period for comment will be ninety (90) days following the second publication of this proposed rule in a newspaper of local circulation in the above-named community.

ADDRESS: Maps and other information showing the detailed outlines of the flood-prone areas and the proposed base (100-year) flood elevations are available for review at the Bernie Oglietti-Village Administrator, Village Hall, Willowbrook, Illinois. Send comments to: Mr. Edwin Schmittschmitt, Village President, Village of Willowbrook, 7760 Quincy Street, Willowbrook, Illinois 60515.

FOR FURTHER INFORMATION CONTACT:

Mr. Richard Krimm, Assistant Administrator, Office of Flood Insurance, Room 5270, 451 Seventh Street SW., Washington, D.C. 20410, 202-755-5581 or toll-free line 800-424-8872.

SUPPLEMENTARY INFORMATION: The Federal Insurance Administrator gives notice of the proposed determinations of base (100-year) flood elevations for the Village of Willowbrook, in accordance with section 110 of the Flood Disaster Protection Act of 1973 (Pub. L. 93-234), 87 Stat. 980, which added section 1363 to the National Flood Insurance Act of 1968 (Title XIII of the Housing and Urban Development Act of 1968 (Pub. L. 90-448), 42 U.S.C. 4001-4128, and 24 CFR Part 1917.4(a)).

These elevations, together with the flood plain management measures required by § 1910.3 of the program regulations, are the minimum that are required. They should not be construed to mean the community must change any existing ordinances that are more stringent in their flood plain management requirements. The community may at any time enact stricter requirements on its own, or pursuant to policies established by other Federal, State, or regional entities. These proposed elevations will also be used to calculate the appropriate flood insurance premium rates for new buildings and their contents and for the second layer of insurance on existing buildings and their contents.

The proposed base (100-year) flood elevations for selected locations are:

Source of flooding	Location	Elevation in feet, national geodetic vertical datum
63rd Street Ditch..	Downstream eastern corporate limits.	695
	600 feet downstream from Madison Street.	700
	Just upstream from Madison Street.	711
	500 feet upstream from Lane Court.	715
	At Lake Hinsdale............	724
East Branch Sawmill Creek.	Downstream from 79th Street.	700
	Just upstream from Midway Drive.	705
	Approximately 800 feet downstream from 75th Street.	708
	At upstream corporate limits (75th Street).	711

(National Flood Insurance Act of 1968 (Title XIII of Housing and Urban Development Act of 1968), effective January 28, 1969 (33 FR 17804, November 28, 1968), as amended (42 U.S.C. 4001-4128); and Secretary's delegation of authority to Federal Insurance Administrator, 43 FR 7719.)

In accordance with Section 7 (o) (4) of the Department of HUD Act, Section 324 of the Housing and Community Amendments of 1978, P.L. 95-557, 92 Stat. 2080, this proposed rule has been granted waiver of Congressional review requirements in order to permit it to take effect on the date indicated.

Issued: January 31, 1979.

Gloria M. Jimenez,
Federal Insurance Administrator.

[FR Doc. 79-4324 Filed 2-8-79; 8:45 am]

[4210-01-M]

[24 CFR Part 1917]

[Docket No. FI-5135]

NATIONAL FLOOD INSURANCE PROGRAM

Proposed Flood Elevation Determinations for the City of Anderson, Madison County, Ind.

AGENCY: Federal Insurance Administration, HUD.

ACTION: Proposed rule.

SUMMARY: Technical information or comments are solicited on the proposed base (100-year) flood elevations listed below for selected locations in the City of Anderson, Madison County, Indiana. These base (100-year) flood elevations are the basis for the flood plain management measures that the community is required to either adopt or show evidence of being already in effect in order to qualify or remain qualified for participation in the national flood insurance program (NFIP).

DATE: The period for comment will be ninety (90) days following the second publication of this proposed rule in a newspaper of local circulation in the above-named community.

ADDRESS: Maps and other information showing the detailed outlines of the flood-prone areas and the proposed base (100-year) flood elevations are available for review at the City Planning Department, Anderson, Indiana. Send comments to: The Honorable Robert Rock, Mayor, City of Anderson, 120 East Eighth Street, Anderson, Indiana 46011.

FOR FURTHER INFORMATION CONTACT:

Mr. Richard Krimm, Assistant Administrator, Office of Flood Insurance, Room 5270, 451 Seventh Street SW., Washington, D.C. 20410, 202-755-5581 or toll-free line 800-424-8872.

SUPPLEMENTARY INFORMATION: The Federal Insurance Administrator gives notice of the proposed determinations of base (100-year) flood elevations for the City of Anderson, in accordance with section 110 of the Flood Disaster Protection Act of 1973 (Pub. L. 93-234), 87 Stat. 980, which added section 1363 to the National Flood Insurance Act of 1968 (Title XIII of the Housing and Urban Development Act of 1968 (Pub. L. 90-448)), 42 U.S.C. 4001-4128, and 24 CFR Part 1917.4(a).

These elevations, together with the flood plain management measures required by § 1910.3 of the program regulations, are the minimum that are required. They should not be construed to mean the community must change any existing ordinances that are more stringent in their flood plain management requirements. The community may at any time enact stricter requirements on its own, or pursuant to policies established by other Federal, State, or regional entities. These proposed elevations will also be used to calculate the appropriate flood insurance premium rates for new buildings and their contents and for the second layer of insurance on existing buildings and their contents.

The proposed base (100-year) flood elevations for selected locations are:

Source of flooding	Location	Elevation in feet, national geodetic vertical datum
White River	At western corporate boundary.	828
	1300 feet upstream of Moss Island Road.	835
	At Madison Avenue	839
	Downstream side of State Route 9.	842
	At East 10th Street	846
	At 200 East Road	852
	At corporate limits 210 feet upstream from State Route 32.	860
Killbuck Creek	150 feet above confluence with White River.	842
	2500 feet downstream of 200 North Road.	843
	500 feet downstream of 200 North Road.	844
	At 200 North Road	845
Pittsford Ditch	At confluence with White River.	848
	Downstream side of 18th Street.	854
	Upstream side of 18th Street.	858
	900 feet upstream of 18th Street.	859
	Upstream of 22nd Street	874
	At Ohio Avenue	878
Boland Drainage Ditch.	At southern corporate boundary.	859
	1100 feet downstream of Indiana Highway 67.	860
	At Indiana Highway 67	863
	Downstream side of 38th Street.	863
	Upstream side of 38th Street.	866
	At Madison	868

(National Flood Insurance Act of 1968 (Title XIII of Housing and Urban Development Act of 1968), effective January 28, 1969 (33 FR 17804, November 28, 1968), as amended (42 U.S.C. 4001-4128); and the Secretary's delegation of authority to Federal Insurance Administrator, 43 FR 7719.)

In accordance with Section 7(o)(4) of the Department of HUD Act, Section 324 of the Housing and Community Amendments of 1978, P. L. 95-557, 92 Stat. 2080, this proposed rule has been granted waiver of Congressional review requirements in order to permit it to take effect on the date indicated.

Issued: January 31, 1979.

GLORIA M. JIMENEZ,
Federal Insurance Administrator.

[FR Doc. 79-4325 Filed 2-8-79; 8:45 am]

[4210-01-M]

[24 CFR Part 1917]

[Docket No. FI- 5136]

NATIONAL FLOOD INSURANCE PROGRAM

Proposed Flood Elevation Determinations for the City of Muncie, Delaware County, Ind.

AGENCY: Federal Insurance Administration, HUD.

ACTION: Proposed rule.

SUMMARY: Technical information or comments are solicited on the proposed base (100-year) flood elevations listed below for selected locations in the City of Muncie, Delaware County, Indiana. These base (100-year) flood elevations are the basis for the flood plain management measures that the community is required to either adopt or show evidence of being already in effect in order to qualify or remain qualified for participation in the national flood insurance program (NFIP).

DATE: The period for comment will be ninety (90) days following the second publication of this proposed rule in a newspaper of local circulation in the above-named community.

ADDRESS: Maps and other information showing the detailed outlines of the flood-prone areas and the proposed base (100-year) flood elevations are available for review at the City Building, 220 East Jackson Street, Muncie, Indiana. Send comments to: The Honorable Robert Cunningham, Mayor, City of Muncie, City Building, 220 East Jackson Street, Muncie, Indiana 47305.

FOR FURTHER INFORMATION CONTACT:

Mr. Richard Krimm, Assistant Administrator, Office of Flood Insurance, Room 5270, 451 Seventh Street SW., Washington, D.C. 20410, 202-755-5581 or toll-free line 800-424-8872.

SUPPLEMENTARY INFORMATION: The Federal Insurance Administrator gives notice of the proposed determinations of base (100-year) flood elevations for the City of Muncie, in accordance with section 110 of the Flood Disaster Protection Act of 1973 (Pub. L. 93-234), 87 Stat. 980, which added section 1363 to the National Flood Insurance Act of 1968 (Title XIII of the Housing and Urban Development Act of 1968 (Pub. L. 90-448)), 42 U.S.C. 4001-4128, and 24 CFR 1917.4(a).

These elevations, together with the flood plain management measures required by § 1910.3 of the program regulations, are the minimum that are required. They should not be construed to mean the community must change any existing ordinances that are more stringent in their flood plain management requirements. The community may at any time enact stricter requirements on its own, or pursuant to policies established by other Federal, State, or regional entities. These proposed elevations will also be used to calculate the appropriate flood insurance premium rates for new buildings and their contents and for the second layer of insurance on existing buildings and their contents.

The proposed base (100-year) flood elevations for selected locations are:

Source of flooding	Location	Elevation in feet, national geodetic vertical datum
White River	At east corporate limits	915
	4600 feet downstream of Tillotson Avenue.	920

Source of flooding	Location	Elevation in feet, national geodetic vertical datum
	Just upstream of Tillotson Avenue.	924
	400 feet downstream of Wheeling Avenue.	930
	Just downstream of Walnut Street.	934
	250 feet upstream of Elm Street.	935
	550 feet downstream of Broadway Avenue.	940
	900 feet downstream of Chessie System.	945
	Just upstream of Jackson Street.	950
	1250 feet downstream of Memorial Drive.	955
	South east corporate limits.	958
York Prairie Creek.	Just upstream of 400 West Road.	914
	Just downstream of Norfolk and Western Railway.	918
	Just upstream of Norfolk and Western Railway.	920
	Just downstream of Petty Road.	923
	Just upstream of Tillotson Avenue.	928
Jakes Creek	At 300 North Road	928
	Just upstream of Wheeling Avenue.	930
	Just downstream of Rosewood Avenue.	931
	Just upstream of Rosewood Avenue.	932
	Just downstream of 300 North Road.	934
	Just upstream of Chessie System.	939
Muncie Creek	Just downstream of Highland Avenue.	939
	Just upstream of Highland Avenue.	941
	Just downstream of Waid Avenue.	942
	Just upstream of Broadway Avenue.	943
	At McGalliard Road	944
Buck Creek	East corporate limit	938
	Just upstream of Middletown Road.	941
	Just upstream of Norfolk and Western Railway.	945
	Just upstream of Sharkey Street.	947
	Just upstream of 23rd Street.	952
	Just upstream of Norfolk and Western Railway.	952
	Madison Avenue	955

(National Flood Insurance Act of 1968 (Title XIII of Housing and Urban Development Act of 1968), effective January 28, 1969 (33 FR 17804, November 28, 1968), as amended (42 U.S.C. 4001-4128); and Secretary's delegation of authority to Federal Insurance Administrator, 43 FR 7719.)

In accordance with Section 7(o)(4) of the Department of HUD Act, Section 324 of the Housing and Community Amendments of 1978, P. L. 95-557, 92 Stat. 2080, this proposed rule has been granted waiver of Congressional review requirements in order to permit it to take effect on the date indicated.

Issued: January 31, 1979.

GLORIA M. JIMENEZ,
Federal Insurance Administrator.

[FR Doc. 79-4326 Filed 2-8-79; 8:45 am]

[4210-01—M]

[24 CFR Part 1917]

[Docket No. FI-5137]

NATIONAL FLOOD INSURANCE PROGRAM

Proposed Flood Elevation Determinations for the City of Gardiner, Kennebec County, Maine

AGENCY: Federal Insurance Administration, HUD.

ACTION: Proposed rule.

SUMMARY: Technical information or comments are solicited on the proposed base (100-year) flood elevations listed below for selected locations in the City of Gardiner, Kennebec County, Maine. These base (100-year) flood elevations are the basis for the flood plain management measures that the community is required to either adopt or show evidence of being already in effect in order to qualify or remain qualified for participation in the national flood insurance program (NFIP).

DATE: The period for comment will be ninety (90) days following the second publication of this proposed rule in a newspaper of local circulation in the above-named community.

ADDRESS: Maps and other information showing the detailed outlines of the flood-prone areas and the proposed base (100-year) flood elevations are available for review at City Hall, Church Street, Gardiner, Maine. Send comments to: Mr. Kenneth Kokernack, City Manager, City of Gardiner, City Hall, Church Street, Gardiner, Maine 04345.

FOR FURTHER INFORMATION CONTACT:

Mr. Richard Krimm, Assistant Administrator, Office of Flood Insurance, Room 5270, 451 Seventh Street SW., Washington, D.C. 20410, 202-755-5581 or toll-free line 800-424-8872.

SUPPLEMENTARY INFORMATION: The Federal Insurance Administrator gives notice of the proposed determinations of base (100-year) flood elevations for the City of Gardiner, Maine, in accordance with section 110 of the Flood Disaster Protection Act of 1973 (Pub. L. 93-234), 87 Stat. 980, which added section 1363 to the National Flood Insurance Act of 1968 (Title XIII of the Housing and Urban Development Act of 1968 (Pub. L. 90-448)), 42 U.S.C. 4001-4128, and 24 CFR 1917.4(a).

These elevations, together with the flood plain management measures required by § 1910.3 of the program regulations, are the minimum that are required. They should not be construed to mean the community must change any existing ordinances that are more stringent in their flood plain management requirements. The community may at any time enact stricter requirements on its own, or pursuant to policies established by other Federal, State, or regional entities. These proposed elevations will also be used to calculate the appropriate flood insurance premium rates for new buildings and their contents and for the second layer of insurance on existing buildings and their contents.

The proposed base (100-year) flood elevations for selected locations are:

Source of flooding	Location	Elevation in feet, national geodetic vertical datum
Kennebec River	Gardiner Randolph Bridge—200 feet *.	29
Cobbosseecontee Stream.	Winter Street Bridge—10 feet *.	29
	Maine Central Railroad Bridge—65 feet **.	35
	Maine Central Railroad Bridge—25 feet *.	40
	Yorktowne Paper Company Dam—100 feet **.	63
	Yorktowne Paper Company Dam—25 feet *.	75
	Former S. D. Warren Company Dam—100 feet **.	96
	Former S. D. Warren Company Dam—25 feet *.	129
	Gardiner Water District Dam—65 feet **.	129
	Gardiner Water District Dam—25 feet *.	139
	Interstate Highway 95 Bridge—at centerline.	139

* Upstream of centerline.
** Downstream of centerline.

(National Flood Insurance Act of 1968 (Title XIII of Housing and Urban Development Act of 1968), effective January 28, 1969 (33 FR 17804, November 28, 1968), as amended (42 U.S.C. 4001-4128); and Secretary's delegation of authority to Federal Insurance Administrator, 43 FR 7719.)

In accordance with section 7(o)(4) of the Department of HUD Act, section 324 of the Housing and Community Amendments of 1978, P. L. 95-557, 92 Stat. 2080, this proposed rule has been granted waiver of Congressional review requirements in order to permit it to take effect on the date indicated.

Issued: January 31, 1979.

GLORIA M. JIMENEZ,
Federal Insurance Administrator.

[FR Doc. 79-4327 Filed 2-8-79; 8:45 am]

[4210-01—M]

[24 CFR Part 1917]

[Docket No. FI-5138]

NATIONAL FLOOD INSURANCE PROGRAM

Proposed Flood Elevation Determination for the Town of Shrewsbury, Worcester County, Mass.

AGENCY: Federal Insurance Administration, HUD.

ACTION: Proposed rule.

SUMMARY: Technical information or comments are solicited on the proposed base (100-year) flood elevations listed below for selected locations in the Town of Shrewsbury, Worcester County, Massachusetts. These base (100-year) flood elevations are the basis for the flood plain management measures that the community is required to either adopt or show evidence of being already in effect in order to qualify or remain qualified for participation in the national flood insurance program (NFIP).

DATE: The period for comment will be ninety (90) days following the second publication of this proposed rule in a newspaper of local circulation in the above-named community.

ADDRESS: Maps and other information showing the detailed outlines of the flood-prone areas and the proposed base (100-year) flood elevations are available for review at Municipal Office Building, 100 Maple Street, Shrewsbury, Massachusetts. Send comments to: Mr. Richard D. Carney, Town Manager, Town of Shrewsbury, Town Hall, 100 Maple Street, Shrewsbury, Massachusetts 01545.

FOR FURTHER INFORMATION CONTACT:

Mr. Richard Krimm, Assistant Administrator, Office of Flood Insurance, Room 5270, 451 Seventh Street SW., Washington, D.C. 20410, 202-755-5581 or toll-free line 800-424-8872.

SUPPLEMENTARY INFORMATION: The Federal Insurance Administrator gives notice of the proposed determinations of base (100-year) flood elevations for the Town of Shrewsbury, Massachuetts, in accordance with section 110 of the Flood Disaster Protection Act of 1973 (Pub. L. 93-234), 87 Stat. 980, which added section 1363 to the National Flood Insurance Act of 1968 (Title XIII of the Housing and Urban Development Act of 1968 (Pub. L. 90-448)), 42 U.S.C. 4001-4128, and 24 CFR 1917.4(a).

These elevations, together with the flood plain management measures required by § 1910.3 of the program regulations, are the minimum that are required. They should not be construed to mean the community must change any existing ordinances that are more stringent in their flood plain management requirements. The community may at any time enact stricter requirements on its own, or pursuant to policies established by other Federal, State, or regional entities. These proposed elevations will also be used to calculate the appropriate flood insurance premium rates for new buildings and their contents and for the second layer of insurance on existing buildings and their contents.

The proposed base (100-year) flood elevations for selected locations are:

Source of flooding	Location	Elevation in feet, national geodetic vertical datum
Big Bummet Brook.	State Highway 140 (downstream crossing)*.	384
	Grafton Street*	391
	State Highway 140 (upstream crossing)*.	397
	State Highway 20—20 feet**.	398
	Gold Street*	449
West Brook	Melvin Avenue*	399
	Everett Avenue*	400
	Old Mill Road—225 feet***.	403
	Old Mill Road—50 feet**	416
	Main Street—25 feet**	425
Meadow Brook	Oak Street*	362
Rawson Hill Brook.	Prospect Street—90 feet**.	533
	Rawson Hill Dam—50 feet**.	545
	Deerfield Road—100 feet***.	586
	Deerfield Road—25 feet**.	591
	Rawson Hill Drive*	599
	Interstate Highway 290*	604
	Colonial Drive*	608

*At centerline.

**Upstream of centerline.

***Downstream of centerline.

(National Flood Insurance Act of 1968 (Title XIII of Housing and Urban Development Act of 1968), effective January 28, 1969 (33 FR 17804, November 28, 1968), as amended (42 U.S.C. 4001-4128); and Secretary's delegation of authority to Federal Insurance Administrator, 43 FR 7719.)

In accordance with Section 7(o)(4) of the Department of HUD Act, Section 324 of the Housing and Community Amendments of 1978, P. L. 95-557, 92 Stat. 2080, this proposed rule has been granted waiver of Congressional review requirements in order to permit it to take effect on the date indicated.

Issued: January 31, 1979.

GLORIA M. JIMENEZ,
Federal Insurance Administrator.

[FR Doc. 79-4328 Filed 2-8-79; 8:45 am]

[4210-01—M]

[24 CFR Part 1917]

[Docket No. FI-5139]

NATIONAL FLOOD INSURANCE PROGRAM

Proposed Flood Elevation Determination for the City of Dewitt, Clinton County, Mich.

AGENCY: Federal Insurance Administration, HUD.

ACTION: Proposed rule.

SUMMARY: Technical information or comments are solicited on the proposed base (100-year) flood elevations listed below for selected locations in the City of DeWitt, Clinton County, Michigan. These base (100-year) flood elevations are the basis for the flood plain management measures that the community is required to either adopt or show evidence of being already in effect in order to qualify or remain qualified for participation in the national flood insurance program (NFIP).

DATE: The period for comment will be ninety (90) days following the second publication of this proposed rule in a newspaper of local circulation in the above-named community.

ADDRESS: Maps and other information showing the detailed outlines of the flood-prone areas and the proposed base (100-year) flood elevations are available for review at the City Hall, DeWitt Michigan. Send comments to: The Honorable William E. Drovin, Mayor, City of DeWitt, 414 East Main Street, DeWitt, Michigan 48820, Attention: James R. Spaulding, City Administrator.

FOR FURTHER INFORMATION CONTACT:

Mr. Richard Krimm, Assistant Administrator, Office of Flood Insurance, Room 5270, 451 Seventh Street SW., Washington, D.C. 20410, 202-755-5581 or toll-free line 800-424-8872.

SUPPLEMENTARY INFORMATION: The Federal Insurance Administrator gives notice of the proposed determinations of base (100-year) flood elevations for the City of DeWitt, in accordance with section 110 of the Flood Disaster Protection Act of 1973 (Pub. L. 93-234), 87 Stat. 980, which added section 1363 to the National Flood Insurance Act of 1968 (Title XIII of the Housing and Urban Development Act of 1968 (Pub. L. 90-448), 42 U.S.C. 4001-4128, and 24 CFR 1917.4(a)).

These elevations, together with the flood plain management measures required by § 1910.3 of the program regulations, are the minimum that are required. They should not be construed to mean the community must change any existing ordinances that are more stringent in their flood plain management requirements. The community may at any time enact stricter requirements on its own, or pursuant to policies established by other Federal, State, or regional entities. These proposed elevations will also be used to calculate the appropriate flood insurance premium rates for new buildings and their contents and for the second layer of insurance on existing buildings and their contents.

The proposed base (100-year) flood elevations for selected locations are:

Source of flooding	Location	Elevation in feet, national geodetic vertical datum
Looking Glass River.	Southwestern corporate limit.	795
	Just downstream of Shavey Road.	796
	Approximately 1450 feet downstream Bridge Street.	799
	Upstream corporate limit.	801

(National Flood Insurance Act of 1968 (Title XIII of Housing and Urban Development Act of 1968), effective January 28, 1969 (33 FR 17804, November 28, 1968), as amended; (42 U.S.C. 4001-4128); and the Secretary's delegation of authority to Federal Insurance Administrator, 43 FR 7719.)

In accordance with Section 7(o)(4) of the Department of HUD Act, Section 324 of the Housing and Community Amendments of 1978, P. L. 95-557, 92 Stat. 2080, this proposed rule has been granted waiver of Congressional review requirements in order to permit it to take effect on the date indicated.

Issued: January 31, 1979.

GLORIA M. JIMENEZ,
Federal Insurance Administrator.

[FR Doc. 79-4329 Filed 2-8-79; 8:45 am]

[4210-01-M]

[24 CFR Part 1917]

[Docket No. FI-5140]

NATIONAL FLOOD INSURANCE PROGRAM

Proposed Flood Elevation Determinations for the City of Grand Rapids, Itasca County, Minn.

AGENCY: Federal Insurance Administration, HUD.

ACTION: Proposed rule.

SUMMARY: Technical information or comments are solicited on the proposed base (100-year) flood elevations listed below for selected locations in the City of Grand Rapids, Itasca County, Minnesota. These base (100-year) flood elevations are the basis for the flood plain management measures that the community is required to either adopt or show evidence of being already in effect in order to qualify or remain qualified for participation in the national flood insurance program (NFIP).

DATE: The period for comment will be ninety (90) days following the second publication of this proposed rule in a newspaper of local circulation in the above-named community.

ADDRESS: Maps and other information showing the detailed outlines of the flood-prone areas and the proposed base (100-year) flood elevations are available for review at the City Hall, 420 Pokegama Avenue North, Grand Rapids, Minnesota. Send comments to: The Honorable Robert Horn, Mayor, City of Grand Rapids, City Hall, 420 Pokegama Avenue North, Grand Rapids, Minnesota 55744.

FOR FURTHER INFORMATION CONTACT:

Mr. Richard Krimm, Assistant Administrator, Office of Flood Insurance, Room 5270, 451 Seventh Street SW., Washington, D.C. 20410, 202-755-5581 or toll-free line 800-424-8872.

SUPPLEMENTARY INFORMATION: The Federal Insurance Administrator gives notice of the proposed determinations of base (100-year) flood elevations for the City of Grand Rapids, in accordance with section 110 of the Flood Disaster Protection Act of 1973 (Pub. L. 93-234), 87 Stat. 980, which added section 1363 to the National Flood Insurance Act of 1968 (Title XIII of the Housing and Urban Development Act of 1968 (Pub. L. 90-448), 42 U.S.C. 4001-4128, and 24 CFR Part 1917.4(a)).

These elevations, together with the flood plain management measures required by § 1910.3 of the program regulations, are the minimum that are required. They should not be construed to mean the community must change any existing ordinances that are more stringent in their flood plain management requirements. The community may at any time enact stricter requirements on its own, or pursuant to policies established by other Federal, State, or regional entities. These proposed elevations will also be used to calculate the appropriate flood insurance premium rates for new buildings and their contents and for the second layer of insurance on existing buildings and their contents.

The proposed base (100-year) flood elevations for selected locations are:

Source of flooding	Location	Elevation in feet, national geodetic vertical datum
Mississippi River...	Downstream corporate limits.	1,256
	500 feet upstream of 7th Avenue.	1,256
	Downstream side of Blandin Dam.	1,257
	Upstream side of Blandin Dam.	1,269
	Upstream corporate limits.	1,269

(National Flood Insurance Act of 1968 (Title XIII of Housing and Urban Development Act of 1968), effective January 28, 1969 (33 FR 17804, November 28, 1968), as amended (42 U.S.C. 4001-4128); and the Secretary's delegation of authority to Federal Insurance Administrator, 43 FR 7719.)

In accordance with Section 7(o)(4) of the Department of HUD Act, Section 324 of the Housing and Community Amendments of 1978, P.L. 95-557, 92 Stat. 2080, this proposed rule has been granted waiver of Congressional review requirements in order to permit it to take effect on the date indicated.

Issued: January 31, 1979.

GLORIA M. JIMENEZ,
Federal Insurance Administrator.

[FR Doc. 79-4330 Filed 2-8-79; 8:45 am]

[4210-01-M]

[24 CFR Part 1917]

[Docket No. FI-4812]

NATIONAL FLOOD INSURANCE PROGRAM

Proposed Flood Elevation Determination for the Town of Jonestown, Coahoma County, Miss.; Correction

AGENCY: Federal Insurance Administration, HUD.

ACTION: Correction of proposed rule.

SUMMARY: This document corrects a proposed rule on base (100-year) flood elevations that appeared on page 1403 of the FEDERAL REGISTER of January 5, 1979 (44 FR 1403).

EFFECTIVE DATE: January 5, 1979.

FOR FURTHER INFORMATION CONTACT:

Mr. Richard Krimm, Assistant Administrator, Office of Flood Insurance, Room 5270, 451 Seventh Street, SW., Washington, D.C. 20410, 202-755-5581 or Toll Free Line 800-424-8872.

The following corrections are made: The community name in the title of the notice which read Town of Jonestone, Coahoma County, Mississippi, is hereby corrected to read Town of Jonestown, Coahoma County, Mississippi.

(National Flood Insurance Act of 1968 (Title XIII of Housing and Urban Development Act of 1968), effective January 28, 1969 (33 FR 17804, November 28, 1968), as amended; 42 U.S.C. 4001-4128; and Secretary's delegation of authority to Federal Insurance Administrator 43 FR 7719.)

In accordance with Section 7(o)(4) of the Department of Housing and Urban Development Act, Section 324 of the Housing and Community Amendments of 1978, Pub. L. 95-557, 92 Stat. 2080, this proposed rule has been granted waiver of Congressional review requirements in order to permit it to take effect on the date indicated.

Issued: January 31, 1979.

Gloria M. Jimenez,
Federal Insurance Administrator.

[FR Doc. 79-4331 Filed 2-8-79; 8:45 am]

[4210-01—M]

[24 CFR Part 1917]

[Docket No. FI-5141]

NATIONAL FLOOD INSURANCE PROGRAM

Proposed Flood Elevation Determination for the City of North Bend, Dodge County, Nebr.

AGENCY: Federal Insurance Administration, HUD.

ACTION: Proposed rule.

SUMMARY: Technical information or comments are solicited on the proposed base (100-year) flood elevations listed below for selected locations in the City of North Bend, Dodge County, Nebraska. These base (100-year) flood elevations are the basis for the flood plain management measures that the community is required to either adopt or show evidence of being already in effect in order to qualify or remain qualified for participation in the national flood insurance program (NFIP).

DATE: The period for comment will be ninety (90) days following the second publication of this proposed rule in a newspaper of local circulation in the above-named community.

ADDRESS: Maps and other information showing the detailed outlines of the flood-prone areas and the proposed base (100-year) flood elevations are available for review at the City Hall, 741 Main Street, North Bend, Nebraska. Send comments to: The Honorable Edward F. Sloup, Mayor, City of North Bend, 741 Main Street, North Bend, Nebraska 68649.

FOR FURTHER INFORMATION CONTACT:

Mr. Richard Krimm, Assistant Administrator, Office of Flood Insurance, Room 5270, 451 Seventh Street SW., Washington, D.C. 20410, 202-755-5581 or toll-free line 800-424-8872.

SUPPLEMENTARY INFORMATION: The Federal Insurance Administrator gives notice of the proposed determinations of base (100-year) flood elevations for the City of North Bend, in accordance with section 110 of the Flood Disaster Protection Act of 1973 (Pub. L. 93-234), 87 Stat. 980, which added section 1363 to the National Flood Insurance Act of 1968 (Title XIII of the Housing and Urban Development Act of 1968 (Pub. L. 90-448), 42 U.S.C. 4001-4128, and 24 CFR 1917.4(a)).

These elevations, together with the flood plain management measures required by § 1910.3 of the program regulations, are the minimum that are required. They should not be construed to mean the community must change any existing ordinances that are more stringent in their flood plain management requirements. The community may at any time enact stricter requirements on its own, or pursuant to policies established by other Federal, State, or regional entities. These proposed elevations will also be used to calculate the appropriate flood insurance premium rates for new buildings and their contents and for the second layer of insurance on existing buildings and their contents.

The proposed base (100-year) flood elevations for selected locations are:

Source of flooding	Location	Elevation in feet, national geodetic vertical datum
Platte River	7100 feet downstream of Highway 79.	1,264
	5400 feet downstream of Highway 79 at downstream extraterritorial limit.	1,266
	4500 feet downstream of Highway 79.	1,268
	Just downstream of Highway 79.	1,272
	1000 feet upstream of Highway 79.	1,274
	2800 feet upstream of Highway 79.	1,275
	5600 feet upstream of Highway 79 at upstream extraterritorial limit.	1,279
	6000 feet upstream of Highway 79.	1,279
	9000 feet upstream of Highway 79.	1,281

(National Flood Insurance Act of 1968 (Title XIII of Housing and Urban Development Act of 1968), effective January 28, 1969 (33 FR 17804, November 28, 1968), as amended; 42 U.S.C. 4001-4128; and Secretary's delegation of authority to Federal Insurance Administrator, 43 FR 7719.)

In accordance with Section 7(o)(4) of the Department of HUD Act, Section 324 of the Housing and Community Amendments of 1978, P.L. 95-557, 92 Stat. 2080, this proposed rule has been granted waiver of Congressional review requirements in order to permit it to take effect on the date indicated.

Issued: January 31, 1979.

Gloria M. Jimenez,
Federal Insurance Administrator.

[FR Doc. 79-4332 Filed 2-8-79; 8:45 am]

[4210-01-M]

[24 CFR Part 1917]

[Docket No. FI-5142]

NATIONAL FLOOD INSURANCE PROGRAM

Proposed Flood Elevation Determination for the Village of Bennington, Douglas County, Nebr.

AGENCY: Federal Insurance Administration, HUD.

ACTION: Proposed rule.

SUMMARY: Technical information or comments are solicited on the proposed base (100-year) flood elevations listed below for selected locations in the Village of Bennington, Douglas County, Nebraska. These base (100-year) flood elevations are the basis for the flood plain management measures that the community is required to either adopt or show evidence of being already in effect in order to qualify or remain qualified for participation in the national flood insurance program (NFIP).

DATE: The period for comment will be ninety (90) days following the second publication of this proposed rule in a newspaper of local circulation in the above-named community.

ADDRESS: Maps and other information showing the detailed outlines of the flood-prone areas and the proposed base (100-year) flood elevations are available for review at the Village Office, Bennington, Nebraska. Send comments to: Mr. William Bohn, Chairman of Village Board, Village of Bennington, Village Hall, Bennington, Nebraska 68007.

FOR FURTHER INFORMATION CONTACT:

Mr. Richard Krimm, Assistant Administrator, Office of Flood Insurance, Room 5270, 451 Seventh Street SW., Washington, D.C. 20410, 202-755-5581 or toll-free line 800-424-8872.

SUPPLEMENTARY INFORMATION: The Federal Insurance Administrator gives notice of the proposed determinations of base (100-year) flood elevations for the Village of Bennington, in accordance with section 110 of the Flood Disaster Protection Act of 1973 (Pub. L. 93-234), 87 Stat. 980, which added section 1363 to the National Flood Insurance Act of 1968 (Title XIII of the Housing and Urban Development Act of 1968 (Pub. L. 90-448), 42 U.S.C. 4001-4128, and 24 CFR Part 1917.4(a)).

These elevations, together with the flood plain management measures required by § 1910.3 of the program regulations, are the minimum that are required. They should not be construed to mean the community must change any existing ordinances that are more stringent in their flood plain management requirements. The community may at any time enact stricter requirements on its own, or pursuant to policies established by other Federal, State, or regional entities. These proposed elevations will also be used to calculate the appropriate flood insurance premium rates for new buildings and their contents and for the second layer of insurance on existing buildings and their contents.

The proposed base (100-year) flood elevations for selected locations are:

Source of flooding	Location	Elevation in feet, national geodetic vertical datum
Big Papillion Creek.	Approximately 1.38 miles downstream of 156th Street (Extraterritorial Limits).	1,083
	Approximately 1.1 mile downstream of 156th Street.	1,083
	Approximately .75 mile downstream of 156th Street.	1,086
	Approximately 260 feet upstream of 156th Street.	1,092
	Approximately 230 feet upstream of Bennington Road.	1,094
	Approximately 2940 feet upstream of Bennington Road.	1,097

(National Flood Insurance Act of 1968 (Title XIII of Housing and Urban Development Act of 1968), effective January 28, 1969 (33 FR 17804, November 28, 1968), as amended (42 U.S.C. 4001-4128); and the Secretary's delegation of authority to Federal Insurance Administrator, 43 FR 7719.)

In accordance with Section 7(o)(4) of the Department of HUD Act, Section 324 of the Housing and Community Amendments of 1978, P.L. 95-557, 92 Stat. 2080, this proposed rule has been granted waiver of Congressional review requirements in order to permit it to take effect on the date indicated.

Issued: January 31, 1979.

Gloria M. Jimenez,
Federal Insurance Administrator.

[FR Doc. 79-4333 Filed 2-8-79; 8:45 am]

[4210-01-M]

[24 CFR Part 1917]

[Docket No. FI-5143]

NATIONAL FLOOD INSURANCE PROGRAM

Proposed Flood Elevation Determination for The City Of Tecumseh, Johnson County, Nebr.-

AGENCY: Federal Insurance Administration, HUD.

ACTION: Proposed rule.

SUMMARY: Technical information or comments are solicited on the proposed base (100-year) flood elevations listed below for selected locations in the City of Tecumseh, Johnson County, Nebraska. These base (100-year) flood elevations are the basis for the flood plain management measures that the community is required to either adopt or show evidence of being already in effect in order to qualify or remain qualified for participation in the national flood insurance program (NFIP).

DATE: The period for comment will be ninety (90) days following the second publication of this proposed rule in a newspaper of local circulation in the above-named community.

ADDRESS: Maps and other information showing the detailed outlines of the flood-prone areas and the proposed base (100-year) flood elevations are available for review at City Hall, Tecumseh, Nebraska. Send comments to: The Honorable Lavern Bartels Mayor, City of Nebraska, P.O. Box 417 Tecumseh, Nebraska 68450.

FOR FURTHER INFORMATION CONTACT:

Mr. Richard Krimm, Assistant Administrator, Office of Flood Insurance, Room 5270, 451 Seventh Street SW., Washington, D.C. 20410, 202-755-5581 or toll-free line 800-424-8872.

SUPPLEMENTARY INFORMATION: The Federal Insurance Administrator gives notice of the proposed determinations of base (100-year) flood elevations for City of Tecumseh, in accordance with section 110 of the Flood Disaster Protection Act of 1973 (Pub. L. 93-234), 87 Stat. 980, which added section 1363 to the National Flood Insurance Act of 1968 (Title XIII of the Housing and Urban Development Act of 1968 (Pub. L. 90-448), 42 U.S.C. 4001-4128, and 24 CFR 1917.4(a)).

These elevations, together with the flood plain management measures required by § 1910.3 of the program regulations, are the minimum that are required. They should not be construed to mean the community must change any existing ordinances that are more stringent in their flood plain management requirements. The community may at any time enact stricter requirements on its own, or pursuant to policies established by other Federal, State, or regional entities. These proposed elevations will also be used to calculate the appropriate flood insurance premium rates for new buildings and their contents and for the second layer of insurance on existing buildings and their contents.

The proposed base (100-year) flood elevations for selected locations are:

Source of flooding	Location	Elevation in feet, National geodetic vertical datum
North Fork Big Nemaha River.	Upstream side of 12th Street bridge.	1,112
	2875 feet upstream from 12th Street bridge.	1,113
	320 feet downstream from 1st Street bridge.	1,114
	850 feet downstream from Burlington Northern Railroad.	1,115
	1100 feet downstream from Lincoln Street.	1,116
	2000 feet upstream of Lincoln Street.	1,119
Town Branch.........	Downstream side of Broadway Street bridge.	1,113
	Upstream side of Broadway Street bridge.	1,117
	900 feet upstream from Broadway Street.	1,118
	Downstream side of Lincoln Street.	1,122
	150 feet upstream from Lincoln Street.	1,125
	1290 feet upstream from Lincoln Street.	1,126
	2100 feet upstream from Lincoln Street.	1,130
	160 feet downstream from Route 136.	1,138
	Upstream side of Route 136.	1,140
	1700 feet upstream from Route 136.	1,141

(National Flood Insurance Act of 1968 (Title XIII of Housing and Urban Development Act of 1968), effective January 28, 1969 (33 FR 17804, November 28, 1968), as amended (42 U.S.C. 4001-4128); and Secretary's delegation of authority to Federal Insurance Administrator, 43 FR 7719).

In accordance with Section 7(o)(4) of the Department of HUD Act, Section 324 of the Housing and Community Amendments of 1978, Pub. L. 95-557, 92 Stat. 2080, this proposed rule has been granted waiver of Congressional review requirements in order to permit it to take effect on the date indicated.

Issued: January 31, 1979.

Gloria M. Jimenez,
Federal Insurance Administrator.

[FR Doc. 79-4334 Filed 2-8-79; 8:45 am]

[4210-01-M]

[24 CFR Part 1917]

[Docket No. FI-5144]

NATIONAL FLOOD INSURANCE PROGRAM

Proposed Flood Elevation Determination for the Borough of Spotswood, Middlesex County, N.J.

AGENCY: Federal Insurance Administration, HUD.

ACTION: Proposed rule.

SUMMARY: Technical information or comments are solicited on the proposed base (100-year) flood elevations listed below for selected locations in the Borough of Spotswood, Middlesex County, New Jersey. These base (100-year) flood elevations are the basis for the flood plain management measures that the community is required to either adopt or show evidence of being already in effect in order to qualify or remain qualified for participation in the national flood insurance program (NFIP).

DATE: The period for comment will be ninety (90) days following the second publication of this proposed rule in a newspaper of local circulation in the above-named community.

ADDRESS: Maps and other information showing the detailed outlines of the flood-prone areas and the proposed base (100-year) flood elevations are available for review at the Spotswood Municipal Building, Summerhill Road, Spotswood, New Jersey. Send comments to: Honorable Joseph Spicuzzo, Mayor of Spotswood, Spotswood Municipal Building, Summerhill Road, Spotswood, New Jersey 08834.

FOR FURTHER INFORMATION CONTACT:

Mr. Richard Krimm, Assistant Administrator, Office of Flood Insurance, Room 5270, 451 Seventh Street SW., Washington, D.C. 20410, 202-755-5581 or toll-free line 800-424-8872.

SUPPLEMENTARY INFORMATION: The Federal Insurance Administrator gives notice of the proposed determinations of base (100-year) flood elevations for the Borough of Spotswood, Middlesex County, New Jersey in accordance with section 110 of the Flood Disaster Protection Act of 1973 (Pub. L. 93-234), 87 Stat. 980, which added section 1363 to the National Flood Insurance Act of 1968 (Title XIII of the Housing and Urban Development Act of 1968 (Pub. L. 90-448)), 42 U.S.C. 4001-4128, and 24 CFR 1917.4(a).

These elevations, together with the flood plain management measures required by § 1910.3 of the program regulations, are the minimum that are required. They should not be construed to mean the community must change any existing ordinances that are more stringent in their flood plain management requirements. The community may at any time enact stricter requirements on its own, or pursuant to policies established by other Federal, State, or regional entities. These proposed elevations will also be used to calculate the appropriate flood insurance premium rates for new buildings and their contents and for the second layer of insurance on existing buildings and their contents.

The proposed base (100-year) flood elevations for selected locations are:

Source of flooding	Location	Elevation in feet, national geodetic vertical datum
South River	Duhernal Lake Dam	12
	Eisenhower Avenue Extended.	14
	Confluence of Manalapan Brook, matchoponic Brook.	15
Manalapan Brook.	Confluence of South River.	15
	DeVoe Street Bridge (Upstream).	19
	DeVoe Lake Dam (Upstream).	21
	Daniel Road Bridge (Upstream).	25
	Upstream Corporate Limits.	26
Matchaponix Brook.	Confluence with South River.	15
	Mundy Avenue Bridge (Upstream).	16
	Upstream Corporate Limits.	19
Cedar Brook	Confluence with Manalapan Brook.	17
	Main Street Culvert	18
	Railroad Bridge (Downstream).	19
	Railroad Bridge (Upstream).	30
	Eaton Avenue extended.	31
	Upstream Corporate Limits.	35
Tributary to Cedar Brook.	Confluence with Cedar Brook.	30
	VanBrockel Street extended—limit of detailed study.	36

(National Flood Insurance Act of 1968 (Title XIII of Housing and Urban Development Act of 1968), effective January 28, 1969 (33 FR 17804, November 28, 1968), as amended (42 U.S.C. 4001-4128); and Secretary's delegation of authority to Federal Insurance Administrator, 43 FR 7719.)

In accordance with Section 7(o)(4) of the Department of HUD Act, Section 324 of the Housing and Community Amendments of 1978, Pub. L. 95-557, 92 Stat. 2080, this proposed rule has been granted waiver of Congressional review requirements in order to permit it to take effect on the date indicated.

Issued: January 31, 1979.

GLORIA M. JIMENEZ,
Federal Insurance Administrator.

[FR Doc. 79-4335 Filed 2-8-79; 8:45 am]

[4210-01-M]

[24 CFR Part 1917]

[Docket No. FI-5145]

NATIONAL FLOOD INSURANCE PROGRAM

Proposed Flood Elevation Determination for the City of Phoenix, Jackson County, Oreg.

AGENCY: Federal Insurance Administration, HUD.

ACTION: Proposed rule.

SUMMARY: Technical information or comments are solicited on the proposed base (100-year) flood elevations listed below for selected locations in the City of Phoenix, Jackson County, Oregon. These base (100-year) flood elevations are the basis for the flood plain management measures that the community is required to either adopt or show evidence of being already in effect in order to qualify or remain qualified for participation in the national flood insurance program (NFIP).

DATE: The period for comment will be ninety (90) days following the second publication of this proposed rule in a newspaper of local circulation in the above-named community.

ADDRESS: Maps and other information showing the detailed outlines of the flood-prone areas and the proposed base (100-year) flood elevations are available for review at City Hall, 500 First Street, Phoenix, Oregon. Send comments to: Honorable Otto Caster, Mayor, City of Phoenix, P.O. Box 233, Phoenix, Oregon 97535.

FOR FURTHER INFORMATION CONTACT:

Mr. Richard Krimm, Assistant Administrator, Office of Flood Insurance, Room 5270, 451 Seventh Street SW., Washington, D.C. 20410, 202-755-5581 or toll-free line 800-424-8872.

SUPPLEMENTARY INFORMATION: The Federal Insurance Administrator gives notice of the proposed determinations of base (100-year) flood elevations for the City of Phoenix, Oregon, in accordance with section 110 of the Flood Disaster Protection Act of 1973 (Pub. L. 93-234), 87 Stat. 980, which added section 1363 to the National Flood Insurance Act of 1968 (Title XIII of the Housing and Urban Development Act of 1968 (Pub. L. 90-448)), 42 U.S.C. 4001-4128, and 24 CFR 1917.4(a).

These elevations, together with the flood plain management measures required by § 1910.3 of the program regulations, are the minimum that are required. They should not be construed to mean the community must change any existing ordinances that are more stringent in their flood plain management requirements. The community may at any time enact stricter requirements on its own, or pursuant to policies established by other Federal, State, or regional entities. These proposed elevations will also be used to calculate the appropriate flood insurance premium rates for new buildings and their contents and for the second layer of insurance on existing buildings and their contents.

The proposed base (100-year) flood elevations for selected locations are:

Source of flooding	Location	Elevation in feet, national geodetic vertical datum
Bear Creek	Fern Valley Road—150 feet*.	1,472
	Phoenix Corporate Limits (approximately 3,470 feet upstream from Fern Valley Road)—at centerline.	1,488
Coleman Creek	Phoenix Corporate Limits (approximately 1,000 feet upstream from mouth)—at centerline.	1,471
	U.S. Highway 99—30 feet**.	1,485

*Upstream from centerline.
**Downstream from centerline.

(National Flood Insurance Act of 1968 (Title XIII of Housing and Urban Development Act of 1968), effective January 28, 1969 (33 FR 17804, November 28, 1968), as amended (42 U.S.C. 4001-4128); and Secretary's delegation of authority to Federal Insurance Administrator, 43 FR 7719.)

In accordance with Section 7(o)(4) of the Department of HUD Act, Section 324 of the Housing and Community Amendments of 1978, Pub. L. 95-557, 92 Stat. 2080, this proposed rule has been granted waiver of Congressional review requirements in order to permit it to take effect on the date indicated.

Issued: January 31, 1979.

GLORIA M. JIMENEZ,
Federal Insurance Administrator.

[FR Doc. 79-4336 Filed 2-8-79; 8:45 am]

[4210-01-M]

[24 CFR Part 1917]

[Docket No. FI-5146]

NATIONAL FLOOD INSURANCE PROGRAM

Proposed Flood Elevation Determination for the City of Kingsport, Sullivan County, Tenn.

AGENCY: Federal Insurance Administration, HUD.

ACTION: Proposed rule.

SUMMARY: Technical information or comments are solicited on the proposed base (100-year) flood elevations listed below for selected locations in the City of Kingsport, Sullivan County, Tennessee. These base (100-year) flood elevations are the basis for the flood plain management measures that the community is required to either adopt or show evidence of being already in effect in order to qualify or remain qualified for participation in the national flood insurance program (NFIP).

DATE: The period for comment will be ninety (90) days following the second publication of this proposed rule in a newspaper of local circulation in the above-named community.

ADDRESS: Maps and other information showing the detailed outlines of the flood-prone areas and the proposed base (100-year) flood elevations are available for review at The Planning Department, City Hall, 225 W. Center Street, Kingsport, Tennessee 37660. Send comments to: Mayor Bevington or Mr. Bob Clear, City Planner, City Hall, 225 W. Center Street, Kingsport, Tennessee 37660.

FOR FURTHER INFORMATION CONTACT:

Mr. Richard Krimm, Assistant Administrator, Office of Flood Insurance, Room 5270, 451 Seventh Street SW., Washington, D.C. 20410, 202-755-5581 or toll-free line 800-424-8872.

SUPPLEMENTARY INFORMATION: The Federal Insurance Administrator gives notice of the proposed determinations of base (100-year) flood elevations for the City of Kingsport, Sullivan County, Tennessee, in accordance with section 110 of the Flood Disaster Protection Act of 1973 (Pub. L. 93-234), 87 Stat. 980, which added section 1363 to the National Flood Insurance Act of 1968 (Title XIII of the Housing and Urban Development Act of 1968 (Pub. L. 90-448)), 42 U.S.C. 4001-4128, and 24 CFR 1917.4(a).

These elevations, together with the flood plain management measures required by § 1910.3 of the program regulations, are the minimum that are required. They should not be construed to mean the community must change any existing ordinances that are more stringent in their flood plain management requirements. The community may at any time enact stricter requirements on its own, or pursuant to policies established by other Federal, State, or regional entities. These proposed elevations will also be used to calculate the appropriate flood insurance premium rates for new buildings and their contents and for the second layer of insurance on existing buildings and their contents.

The proposed base (100-year) flood elevations for selected locations are:

Source of flooding	Location	Elevation in feet, national geodetic vertical datum
Holston River	At Inter-Plant Railroad.	1175
North Fork Holston River.	Just upstream of U.S. Highway 11.	1180
South Fork Holston River.	At Inter-Plant Railroad.	1183
	Approximately 300 feet upstream of Wilcox Drive.	1189
	Just upstream of U.S. Highway 23.	1207
South Fork Holston River Sluice.	Approximately 300 feet downstream of Wilcox Drive.	1186
Mad Branch	Intersection of Wilcox Drive and Lincoln Street.	1208
	Just downstream of Lamont Street.	1237
	Approximately 100 feet upstream of Midland Drive.	1251
Reedy Creek	Approximately 200 feet upstream of West Center Street.	1190
	Approximately 250 feet upstream of Gibson Mill Road.	1196
	Just upstream of State Highway 93.	1216

In accordance with Section 7(o)(4) of the Department of Housing and Urban Development Act, Section 324 of the Housing and Community Amendments of 1978, Pub. L. 95-557, 92 Stat. 2080, this proposed rule has been granted waiver of Congressional review requirements in order to permit it to take effect on the date indicated.

(National Flood Insurance Act of 1968 (Title XIII of Housing and Urban Development Act of 1968), effective January 28, 1969 (33 FR 17804, November 28, 1968), as amended (42 U.S.C. 4001-4128); and Secretary's delegation of authority to Federal Insurance Administrator, 43 FR 7719.)

Issued: January 31, 1979.

GLORIA M. JIMENEZ,
Federal Insurance Administrator.

[FR Doc. 79-4337 Filed 2-8-79; 8:45 am]

[4210-01-M]

[24 CFR Part 1917]

[Docket No. FI-5147]

NATIONAL FLOOD INSURANCE PROGRAM

Proposed Flood Elevation Determination for the City of Martinsville, Va.

AGENCY: Federal Insurance Administration, HUD.

ACTION: Proposed rule.

SUMMARY: Technical information or comments are solicited on the proposed base (100-year) flood elevations listed below for selected locations in the City of Martinsville, Virginia. These base (100-year) flood elevations are the basis for the flood plain management measures that the community is required to either adopt or show

evidence of being already in effect in order to qualify or remain qualified for participation in the national flood insurance program (NFIP).

DATE: The period for comment will be ninety (90) days following the second publication of this proposed rule in a newspaper of local circulation in the above-named community.

ADDRESS: Maps and other information showing the detailed outlines of the flood-prone areas and the proposed base (100-year) flood elevations are available for review at the Martinsville City Hall, 55 West Church Street, Martinsville, Virginia. Send comments to: Mr. Thomas B. Nolan, City Manager of Martinsville, P.O. Box 1112, Martinsville, Virginia 24112.

FOR FURTHER INFORMATION CONTACT:

Mr. Richard Krimm, Assistant Administrator, Office of Flood Insurance, Room 5270, 451 Seventh Street SW., Washington, D.C. 20410, 202-755-5581 or toll-free line 800-424-8872.

SUPPLEMENTARY INFORMATION: The Federal Insurance Administrator gives notice of the proposed determinations of base (100-year) flood elevations for the City of Martinsville, Virginia in accordance with section 110 of the Flood Disaster Protection Act of 1973 (Pub. L. 93-234), 87 Stat. 980, which added section 1363 to the National Flood Insurance Act of 1968 (Title XIII of the Housing and Urban Development Act of 1968 (Pub. L. 90-448)), 42 U.S.C. 4001-4128, and 24 CFR 1917.4(a).

These elevations, together with the flood plain management measures required by § 1910.3 of the program regulations, are the minimum that are required. They should not be construed to mean the community must change any existing ordinances that are more stringent in their flood plain management requirements. The community may at any time enact stricter requirements on its own, or pursuant to policies established by other Federal, State, or regional entities. These proposed elevations will also be used to calculate the appropriate flood insurance premium rates for new buildings and their contents and for the second layer of insurance on existing buildings and their contents.

The proposed base (100-year) flood elevations for selected locations are:

Source of flooding	Location	Elevation in feet, national geodetic vertical datum
Jones Creek	Downstream Corporate Limits.	742
	State Route 108	764
	Prison Railroad	777
	Private Bridge 2,400 feet upstream of Prison Railroad.	803
Jones Creek Tributary No. 1.	Confluence with Jones Creek.	765
	0.4 mile upstream from the confluence with Jones Creek.	801
Jones Creek Tributary No. 2.	Confluence with Jones Creek.	777
	State Route 662	784
Tributary of Mulberry Creek.	Downstream Corporate Limits.	837
	U.S. Route 58	879
Doe Run	Downstream Corporate Limits.	708
	Overland Avenue extended.	800
	Confluence of Tanyard Branch and Aarons Branch.	831
Rugg Creek	Confluence of Tributary No. 1.	756
	Smithlake Road	763
	Open Air Pavilion Entrance.	777
	Private Bridge at River Mile 1.7.	808
	Scufflehill Road	833
	Rives Road	849
	Mulberry Road	868
	Gates Street	879
Aarons Branch	Confluence of Tanyard Branch.	831
	U.S. Highway 220	877
	Bridge Street	887
Smith River	Downstream Corporate Limits.	668
	Upstream Corporate Limits.	714

(National Flood Insurance Act of 1968 (Title XIII of Housing and Urban Development Act of 1968), effective January 28, 1969 (33 FR 17804, November 28, 1968), as amended (42 U.S.C. 4001-4128); and Secretary's delegation of authority to Federal Insurance Administrator, 43 FR 7719.)

In accordance with Section 7(o)(4) of the Department of HUD Act, Section 324 of the Housing and Community Amendments of 1978, Pub. L. 95-557, 92 Stat. 2080, this proposed rule has been granted waiver of Congressional review requirements in order to permit it to take effect on the date indicated.

Issued: January 31, 1979.

GLORIA M. JIMENEZ,
Federal Insurance Administrator.

[FR Doc. 79-4338 Filed 2-8-79; 8:45 am]

[4210-01-M]

[24 CFR Part 1917]

[Docket No. FI-4868]

NATIONAL FLOOD INSURANCE PROGRAM

Proposed Flood Elevation Determinations for the City of Delano, Wright County, Minn.

Correction

In FR Doc. 79-64 appearing at page 1140 in the issue of Thursday, January 4, 1979, the flood elevations appearing on page 1141 should be corrected to read as follows:

Source of Flooding	Location	Elevation in feet national geodetic vertical datum
South Fork Crow River.	Northern corporate limits.	924
	200 feet downstream of Bridge Avenue.	925
	Just upstream of U.S. Highway 12.	928
	Southern corporate limits.	929

[4810-31-M]

DEPARTMENT OF THE TREASURY

Bureau of Alcohol, Tobacco and Firearms

[27 CFR Parts 4, 5, and 7]

[Notice No. 318; Re: Notice No. 316]

THE FETAL ALCOHOL SYNDROME PUBLIC AWARENESS CAMPAIGN

Progress Report

AGENCY: The Department of the Treasury and the Bureau of Alcohol, Tobacco and Firearms (the Department).

ACTION: Progress report on the advance notice of proposed rulemaking (Notice No. 316; 43 FR 2186).

SUMMARY: The Department has concluded that there is a need for a public awareness campaign which educates the public about the possible dangers that consumption of liquor, beer, and wine by a pregnant woman can present to an unborn child. Because of the nature of the evidence now available as to the possible dangers, it is not yet clear that warning labels on alcoholic beverage containers would be the best tool to educate the public; and because the Department wants in all instances to avoid unnecessary government regulation, it is encouraging the alcoholic beverage industry to work with the Government and private interest groups to educate the public about the possible dangers. If, after a reasonable period of time, the Department does not find that these efforts to provide public information have been successful or that more precise medical evidence becomes available, the proposal to require a warning label on all alcoholic beverage containers will be reconsidered.

ADDRESSES: Copies of this progress report are available to interested parties by writing to: Director, Bureau of Alcohol, Tobacco and Firearms, Post Office Box 385, Washington, D.C. 20044. (Attention: Chief, Regulations and Procedures Division; Notice No. 318.)

Copies of the addendum to this progress report, which includes the experts' reports and the analysis from the Office of Science and Technology Policy, the Executive Office of the President, are available for public inspection at the following reading rooms from 8:30 a.m. to 5:00 p.m.

BUREAU HEADQUARTERS

ATF Reading Room, Room 4408, 12th and Pennsylvania Avenue, NW., Washington, D.C.

CENTRAL REGION

ATF Reading Room, Room 6519, Bureau of Alcohol, Tobacco and Firearms, Federal Office Building, 550 Main Street, Cincinnati, Ohio.

MID-ATLANTIC REGION

ATF Reading Room, Third Floor, Bureau of Alcohol, Tobacco and Firearms, 2 Penn Center Plaza, Philadelphia, Pennsylvania.

MIDWEST REGION

ATF Reading Room, Bureau of Alcohol, Tobacco and Firearms, 230 South Dearborn Street, Chicago, Illinois.

NORTH-ATLANTIC REGION

ATF Reading Room, Sixth Floor, Bureau of Alcohol, Tobacco and Firearms, 6 World Trade Center, New York, New York.

SOUTHWEST REGION

ATF Reading Room, Room 345, Bureau of Alcohol, Tobacco and Firearms, Main Tower Building, 1200 Main Street, Dallas, Texas.

SOUTHEAST REGION

ATF Reading Room, Bureau of Alcohol, Tobacco and Firearms, 3835 Northeast Expressway, Atlanta, Georgia.

WESTERN REGION

ATF Reading Room, Thirty-fourth Floor, Bureau of Alcohol, Tobacco and Firearms, 525 Market Street, San Francisco, California.

FOR FURTHER INFORMATION CONTACT:

Charles N. Bacon or Armida N. Stickney at 202-566-7626.

SUPPLEMENTARY INFORMATION:

I. BACKGROUND

The Bureau of Alcohol, Tobacco and Firearms (ATF) published in the FEDERAL REGISTER on January 16, 1978, and advance notice of proposed rulemaking concerning warning labels on containers of alcoholic beverages. This advance notice requested information to assist ATF in deciding whether the current regulations should be amended to require a warning label on alcoholic beverage containers, concerning the consumption of alcohol by pregnant women and the possible resulting birth defects in their newborn infants. ATF received over 3,000 comments from consumers, special interest groups, industry, doctors, and scientific researchers. The majority of those who wrote said they were opposed to a warning label.

The majority of these comments were from consumers (2,772). Most of the consumers opposed the warning label, particularly for wine containers. Industry members were also opposed to a warning label on the grounds that, at most, the fetal alcohol syndrome applies only to excessive users of alcohol and that the warning lable would be costly and ineffective. The medical profession was divided on the issue; many practitioners felt that moderate use of alcohol during pregnancy has been beneficial while some researchers felt that there is clear evidence linking alcohol use by moderate drinkers to the fetal alcohol syndrome. Several objected, because warning labels would increase feelings of guild by those women who had consumed alcohol during pregnancy and produced children with birth defects. A general consensus of those opposed was that it is the doctor's responsibility to advise about health hazards rather than the Government's and that any measure by the Government would constitute overregulation. Many of the comments from doctors and consumers opposing warning labels originated from California, with at least 500 form letters coming from employees of wineries in California.

Those in favor of warning labels felt that alcohol consumption by pregnant women is potentially dangerous to their children and that a warning label would have a significant effect upon alcohol consumption by these women. They also felt that, in addition, a broad education program for pregnant women should be sponsored by both private concerns and the Government. Others, including women's groups, chruches, alcoholism prevention groups, and social service agencies, thought that the proposal was a positive step forward and that a warning label would contribute to better health both for infants and for the public in general. It was also felt that consumers have a right to know what risks they are taking when they use a particular product.

Because of the conflicting and sometimes highly technical opinions offered as to the seriousness of the problem and as to the best method for approaching it, the Office of Science and Technology Policy, Executive Office of the President, was asked to evaluate the comments and evidence we received. They submitted an analysis with a recommendation that the Department employ outside, specialized consultants to assess independently the warning label proposal and other approaches that would educate the public. Subsequently, we engaged three consultants in the following fields of expertise: (a) medical genetics, (b) obstetrics and pharmacology, and (c) social policy. None of these individuals have previously been involved in research or in formulating policy about the fetal alcohol syndrome problem.

The experts are Dr. Judith Hall, a medical doctor who is a specialist in genetics and Director of the Division of Medical Genetics at Children's Orthopedic Hospital in Seattle, Washington; Dr. Sergio Fabro, a medical doctor who holds advanced degrees in biological chemistry and pharmacology, and who is Professor and Director of the Fetal-Maternal Medicine Division, George Washington University Medical Center in Washington, D.C.; and Dr. Amitai Etzioni, a sociologist who is Director for the Center for Policy Research, New York, and now a Visiting Fellow at the Brookings Institution.

The Department provided two sets of questions for the experts, one of which was directed at the medical experts and the other at the social policy expert. Each of the experts was given copies of the comments received on the advance notice, and the record of the Senate Hearing before the Subcommittee on Alcoholism and Drug Abuse of the Committee on Human Resources, held January 31, 1978. The experts independently evaluated these materials and submitted written reports of their findings to the Department. These written reports were then sent to the National Institute on Alcohol Abuse and Alcoholism; the Food and Drug Administration; the Assistant Secretary for Health, the Department of Health, Education, and Welfare; the National Academy of Sciences; and the Office of Science and Technology Policy, Executive Office of the President, for their comments.

II. SUMMARY OF EXPERTS' COMMENTS

A. FABRO REPORT.

1. *Scientific Evidence*

Dr. Fabro concludes in this report that the fetal alcohol syndrome does exist. He states that "a series of rather aspecific abnormalities [central nervous system dysfunction; growth deficiencies; cluster of facial abnormalities; and variable major and minor malformations] have been grouped into a 'syndrome' which shows a remarkable reproducibility in that it has been observed only in offspring of chronic alcoholic mothers." He states that some alteration in brain function, growth, *and* facial appearance are essential for the diagnosis of the full-blown syndrome. He believes that evidence so far indicates that, to produce the full-blown syndrome, the level of alcohol consumption must be sufficiently high to cause easily-recognizable chronic alcoholism in the mother.

He also states that, while evidence indicates that with lower levels of alcohol the full-blown syndrome is highly unlikely, "some other poor pregnancy outcome (e.g., low birthweight, stillbirth) appears possible." He thinks further, "Prospective epidemiological studies are required to establish whether, for example, wine (2-3 glasses) with dinner or one martini before dinner taken by the mother are deviod of any toxicity for the unborn child." Dr. Fabro believes that "the position taken by the March of Dimes in advising women about alcohol consumption and pregnancy is prudent. Until more data is accumulated in this respect, they advise any woman who is planning to become pregnant to abstain from consuming alcohol-containing beverages."

He thinks that heavy alcohol consumption by the chronic alcoholic mother appears essential for the occurrence of infants with the fetal alcohol syndrome, although the mechanism by which these adverse effects are produced is not known. He thinks that it is likely that ethanol in alcoholic beverage is the chemical responsible for producing the fetal alcohol syndrome; however, whether ethanol itself or one of its metabolites is the sole determining factor is not yet clear. Furthermore, the importance of other associated factors likely to be present in heavily drinking women such as malnutrition, medical complications (e.g., delirium tremens, cirrhosis), and poor personal habits (cigarette smoking, caffeine intake, and drug abuse) has not yet been defined in regard to establishing the risk of the fetal alcohol syndrome in offspring of chronic alcoholic mothers. As far as the relationship of a woman's drinking pattern to pregnancy outcome is concerned, he thinks it is not known whether there is a critical period during or before pregnancy for the production of the fetal alcohol syndrome, nor is it known whether "binge" drinking is more important in the teratogenicity of alcohol than constant, persistent alcohol abuse, as in chronic alcoholic women. (A teratogen is a compound which causes malformations in the embryo or fetus when taken by the mother during pregnancy.)

He points out that laboratory tests of toxic effects of ethanol given to pregnant animals generally support findings of the toxic effect of ethanol during pregnancy. He cautions, however, against drawing firm conclusions based on animal studies since "at present there is no animal test or battery of tests that can predict human teratogenic risk with complete assurance."

He also points out that animal studies were probably the basis for the National Institute on Alcohol Abuse and Alcoholism's statement that " 'there is substantial and serious risk for the fetus when the woman chronically drinks 3 or more oz. of absolute alcohol (6 drinks) a day.' " He said the selection of three ounces of absolute alcohol per day as the level when the risk begins to be substantial is an intelligent guess made by extrapolating animal teratological data into humans.

As far as the incidence of the fetal alcohol syndrome in children whose mothers are "moderate drinkers" is concerned, he says the full-blown syndrome has only been documented in offspring of chronic alcoholic drinkers although "some toxicity suspicious of, or compatible with, alcohol toxicity during pregnancy has been observed with lower (greater than 1 oz. absolute alcohol per day) consumption."

As for the effects of "binge" drinking, he thinks that "according to well-established pharmacological and toxicological principles, binge drinking, particularly during early pregnancy, may still theoretically be responsible for embryotoxic effects resulting in abortion, stillbirth, intrauterine growth retardation, and other anomalies which may be collectively termed 'embryotoxic alcohol related syndrome(s)' (EARS)."

2. *Pros and Cons of Warning Labels*

Dr. Fabro declines to express an opinion on whether a warning label is justified, citing both incomplete data and his own lack of expertise on the effectiveness of such a measure. He does think, however, that any warning about the fetal alcohol syndrome should be directed at *all* women of childbearing age, rather than just pregnant women, since there are suggestions that alcohol consumption may exert toxic effects on the human embryo before the mother is aware that she is pregnant. He also thinks it is important to alert the corresponding male population as to possible toxic effects of alcohol on unborn children. Dr. Fabro said that effective prevention of the fetal alcohol syndrome may not be possible if doctors are solely responsible for informing women about the risks of drinking primarily because of the possibility of danger in early stages of pregnancy before she visits the doctor. Ideally, he said, women should know about the dangers as they enter the childbearing years. Dr. Fabro suggests the possibility of explaining the risk during sex education classes in junior and senior high school.

3. *Possible Adverse Effects of Warning Labels*

While Dr. Fabro does not directly address the question of whether warning labels would have adverse impact, he does say there is "no doubt that our knowledge in this area is scanty and that further research is needed."

B. HALL REPORT

1. *Scientific Evidence*

Dr. Hall finds the evidence "overwhelming" that the fetal alcohol syndrome exists as described by researcher Kenneth L. Jones et al. (Jones' definition includes deficiencies in weight and length; delay of intellectual development and/or mental deficiency; poor coordination; changes in appearances of face, especially eyes; minor joint anomalies; valve defects of the heart; brain cell myragory abnormalities; and minor genital anomalies.) In addition to the full-blown syndrome, she thinks it is probable that "other more subtle deleterious effects occur in children whose mothers drink during pregnancy," the most serious of which are those which affect the brain and central nervous system. These effects are probably dependent upon the amount of the alcohol ingested, the timing during pregnancy, the genetic background of the mother and fetus, and other environmental factors such as smoking, nutrition, and medication. Dr. Hall says, "This second type of the maternal fetal alcohol spectrum has not yet been fully evaluated or delineated." She cites research studies which indicate "strong hints of behavioral differences, neurologic abnormalities, phycosocial illness * * * hyperactivity * * * in the offspring of moderate and binge drinking mothers; however, long-term follow-up of the infants born to mothers using moderate and minimal amounts of alcohol or those born to binge drinkers has not yet been possible."

Based on evidence available both from the studies on the fetal alcohol syndrome and other studies of human teratogens, she believes that "we will see this second category of defects manifested in the children of those women who drank alcohol during pregnancy, perhaps even very small amounts or only during critical periods." Dr. Hall thinks that the relationship between dose and fetal effect in humans will be difficult to establish in "self-reporting" studies, in part because alcoholics and others notoriously under report the amount they drink, and because there are very likely genetic variations affecting response to dose and timing of consumption. However, since other known human teratogens which cause malformations in large doses usually have an adverse effect in small doses as well, she believes the same kind of dose effect can be anticipated with alcohol. She estimates that the frequency of adverse effects may be as high as 1-2 per 100 births. Dr. Hall believes, "The most susceptible period for detrimental effects of alcohol on the fetus is probably in early pregnancy (the first trimester)," but she claims that studies have also demonstrated adverse effects in later stages of pregnancy. Dr. Hall also points out, "Since one of the major effects of alcohol is on the developing brain and the brain continues to grow, neurons migrate and cells develop through all three trimesters, it seems likely (and there is some suggestion from the available data) that maternal alcohol consumption at any time during brain development could have an adverse effect."

Dr. Hall concludes that, given the present state of knowledge, "no minimum safe level of maternal alcohol consumption can be established at any time during pregnancy." She suggests that the most prudent advice to pregnant women is to avoid alcohol consumption during pregnancy and while nursing. She believes that the most serious time for alcohol consumption may be during very early pregnancy, prior to making the diagnosis of pregnancy.

2. *Pros and Cons of Warning Labels*

Dr. Hall recommends that a warning label be required on containers and packaging materials of all alcoholic beverages. She believes women have the right to know that alcohol may endanger the unborn child, and that information about possible danger is not known either by the general public or, more importantly, by the medical profession. For those reasons, she also recommends that a broad educational program for the general public and health professionals be conducted. She states, "There is no question but [that] it is one of the most common known causes of mental retardation," and it is preventable.

She thinks it important that an educational program reach all women of childbearing age who may be considering becoming pregnant as well as their family members, husbands, and friends so they can be supportive of a woman's abstinence of alcohol. She thinks the question of previous effectiveness of labels (i.e., cigarettes) is irrelevant since no equivalent situation (a woman altering her behavior to protect her unborn child) has occurred.

3. *Possible Adverse Effects of Warning Labels*

Dr. Hall finds two issues raised by those opposed to the advance notice which deserve consideration. The first issue is whether warning labels would produce unnecessary guilt in women who gave birth to a child (a) which had been damaged by alcohol or (b) which was mentally retarded for some other reason. Dr. Hall thinks this is an "unavoidable problem" and believes a parent would be "much more incensed and have more guilt if he or she was denied information that would have made it possible to avoid the problem."

The second issue is whether giving information directly to the women would interfere with the doctor-patient relationship. She believes most people are now health conscious and want to practice preventive health care, particularly pregnant women. She thinks that the data available from several studies suggest that moderate and "binge" drinking can be controlled and modified by the pregnant woman and that other studies also "suggest that even chronic alcoholics will try to curb their alcohol consumption in the interest of their unborn child." Dr. Hall is "concerned by the number of letters from physicians [in response to the advance notice] who indicated that they do not believe that alcohol can possibly have any adverse effect on the unborn child." She thinks "this attitude reflects the fact that the medical community is not fully informed about the effects of alcohol during gestation and further emphasizes that this information should be directly available to the public."

C. ETZIONI REPORT

1. *Scientific Evidence*

Dr. Etzioni, who is a sociologist, calls attention to the need for different public policies according to the way the ongoing research on the fetal alchohol syndrome unfolds. He believes different public policies are necessary if it is established that only high dosages, as against both high and low, are harmful; that only continuous drinking is harmful versus continuous and occasional ("binge") drinking; that harmful effects occur relatively late in the fetus formation versus during the first two months. In some instances, only pregnant women will have to be reached, in others, all fertile women; in some instances, the target audience would be those who are relatively unresponsive (addicted drinkers), in other circumstances, the relatively more responsive social drinkers.

2. *Pros and Cons of Warning Labels*

Dr. Etzioni believes the Federal Government should not treat this problem as an isolated issue but should view it as part of a systematic approach to public warnings. He believes warnings required by the Federal Government need to be graduated to differentiate clearly among levels of danger—according to strength of data available and magnitude of problem caused by the product at issue. He believes high alerts should be used sparingly, taking into account not just the costs which regulations and their enforcement entail, but "costs" in taxing the public's tolerance for government intervention.

He also believes as a matter of general principle "*the stronger the data*, the better the defense one can pose against criticism, and the easier it will be to *legitimate* the required warnings." He also thinks that "scientific data [need to] go through a *sociological* process in which they are publicly debated and a slow consensus emerges on the status of the data." He points out that this process is quite different from scientific evaluation, internal to the scientific community. He gives as examples of data that have been processed through the public: The definition of death as a flat brain wave pattern for 48 hours and the relative demerits of heroin versus marijuana. In contrast, he believes data about the fetal alcohol syndrome are not widely known, nor their implications much discussed yet. He, therefore, concludes that "the legitimacy of the claim that alcohol will damage a fetus is not at all well publicized. Regulation would more likely be respected if the data were first 'processed' more publicly . . . The fact that . . . data [on the fetal alcohol syndrome] at this stage are poorly processed suggests that the time is not ripe for relatively tough measures from this viewpoint. *If* higher levels of alert were desired on other grounds, e.g., if new data suggested frequent [fetal alcohol syndrome] risk at early stages of pregnancy, then the *public* dialogue could be intensified. One of the most effective ways of doing this would be to foster some drastic measures (for instance, sending a registered letter from State health departments to all women aged 14 to 50, or at least to pregnant women, warning that alcohol may harm their fetus)."

He points to other considerations which do not favor a high-level alert. One is the effectiveness of warnings as a technique to deter people from behavior that could be harmful. He thinks warnings are more effective when people can switch to some other easily available substitute (from regular to filter cigarettes, birth control pills to other contraceptives, liquid protein diets to other diets). He thinks that warnings would be "more effective *if* it turned out that drinking wine or beer has no harmful effects on the fetus (a rather unlikely possibility), so that women could be advised to *switch* to these from hard liquor, or—if it turned out that women could be told to eat before they drink (to dilute the effects of alcohol). We expect warnings to be less effective the fewer 'near' substitutes are available."

Dr. Etzioni also thinks that warnings are less effective when both addiction and anxiety are present, which is very likely in the case when a woman is addicted to alcohol and anxious about the health of her unborn child. He goes on, however, to disagree with those who responded to the advance notice, saying that, because of the anxiety problem, information should be withheld so as not to generate more anxiety. "Women are not to be treated as neurotic, infantile creatures who need to be protected from tension. On moral grounds, it would be unethical to prevent millions of pregnant women from making an informed choice on the implausible idea that this bit of anxiety, in a world riddled with anxiety, would be the one that would tax their tolerance to the breaking point."

Dr. Etzioni points out that a number of comments submitted by industry suggested that the matter of alert be left largely to the doctor. He says "this reliance would be impossible if early and moderate drinking have an effect, because then all women in fertile ages must be notified." He also points to studies which show that doctors have a poor record in transmitting such "preventive" information. He suggests that a broad-based public education program might be funded by adding one penny (or more) to the tax on alcohol and says that "public service announcements on television and radio may do more good than labels, although if one could have all the aforementioned *and* labels, they might benefit from the interaction effect * * * Public service announcements can be made to appeal more to motives, sentiments, and values, quite necessary *in addition to*, not instead of, informing, if people are to change their minds."

He says that he believes further scientific research is needed on the fetal alcohol syndrome before a decision to require warning labels is made. However, he says:

> If it is considered beneficial for pregnant women, their future children, and the public (which bears a good part of the resulting costs if the warning is ignored) not to consume alcohol, it will not be enough to merely inform women. It will also be necessary to help create a social climate which recognizes that it is *unbecoming* for a pregnant woman to drink. Thus, just as public service announcements try to break the idea that it is socially well-mannered to offer the driver "one more for the road," it will be necessary to establish that it is asocial to offer a drink to a pregnant women. Public service announcements and public educational campaigns, combined with the advice of physicians and other health professionals, are likely to be relatively more effective than labels or posters in bringing about this change in the social climate, although both of these might help.

3. *Possible Adverse Effects of Warning Labels*

Dr. Etzioni thinks it important to consider the possible harmful effects that might follow a decision to require warning labels. He thinks it is possible that a "federal label on alcohol may well imply more approval of consuming it (at least by persons not pregnant) than is in the public interest. At least, the 'costs' of such federal legitimization of liquor should be weighed against the benefits of such labels."

He also thinks that there are growing segments of the public who ignore warnings, because "they feel they cannot heed the recent avalanche of forbiddens."

III. Analysis and Conclusions

Several conclusions can be drawn from the scientific data:

a. Heavy drinking by some women during pregnancy can result in a pattern of abnormalities in the offspring, called the fetal alcohol syndrome. This syndrome consists of specific congenital and behavior abnormalities including dysfunction of the central nervous system; growth deficiencies both before and after birth; cluster of facial abnormalities, especially the eyes; and mental retardation. The full-blown syndrome has only been identified in offspring of those women who are chronic alcoholics.

b. There is disagreement among our medical experts—which appears representative of differences within the scientific medical community—about the effects moderate, light, or "binge" drinking may have on the fetus. One expert says it is likely there is a linear relationship between the dose of alcohol and teratogenic effect down to one drink. The other expert does not believe that such a relationship has been proven. On moderate drinking, one expert points to studies which indicate that a mother's moderate drinking can cause a variety of physical and mental abnormalities in her offspring; and the other expert says the evidence is not clear. However, both experts say in theory it is possible that "binge" drinking at the "wrong time" can be responsible for birth defects. Moreover, the two medical experts believe that absent clear evidence which establishes a safe level of drinking, the most prudent advice to women planning on becoming pregnant is to abstain totally from consuming alcohol from the time of conception to birth.

c. Studies indicate that pregnant women who are told of the danger alcohol can have on their children are amenable to changing drinking patterns during pregnancy.

d. There is a low level of awareness of the problem both on the part of the public in general and the medical profession.

The Department believes there is sufficient evidence to require further action on the part of industry and Government to educate the population at large, and particularly women of childbearing age, about the problem. The potential consequences are both real and preventable; and most people, including many doctors, are generally unaware of the state of scientific knowledge. We agree with the experts' unanimous opinion that responsibility for informing women of the possible risks should not be left solely to a women's doctor. The scope of education must be broader than the woman who thinks she may be pregnant and therefore consults a doctor. Initially, risks exist at the earliest stages of pregnancy before a doctor has been consulted and some, particularly low income women, never seek prenatal care. We also agree with the experts' advice that efforts be made to educate the potential male parent so that he can participate in, and be supportive of, any decision as to alcohol consumption during pregnancy. We also agree that special efforts should be made to reach the teenage population because of the recent increases in teenage pregnancies and drinking.

One option which has been considered the risks of alcohol for the pregnant woman on all alcoholic beverage containers. The Department believes that adequate statutory authority exists for such a requirement and that, in many cases, labeling has served as a vehicle for communication. Such an approach would bring some information about this issue to the attention of large segments of the drinking population.

In the case of the fetal alcohol syndrome, however, we have concluded that other forms of education should be attempted before deciding on the necessity of labeling. It seems that warning labels can be most effective when the message sought to be conveyed is simple and easy to state. In the case of the fetal alcohol syndrome, however, the state of scientific evidence does not lend itself to such directness. There are differences of opinion as to the import issues of "binge," moderate, and one-time drinking which cannot be ignored if the message to be communicated is to be as accurate as it should be. Other forms of education—which explain more fully the scientific issues involved—may in this situation be more effective than warning labels and still provide a basis for educated, consumer decisionmaking.

It is also important, generally, that warnings not overstate the danger being discussed. We feel that any action plan should consider the fact that it may be unfair to cause people to think that any level of drinking in pregnancy (i.e., on drink) may have caused problems such as mental retardation in their children. Any approach, therefore, must insure that the information which is desseminated is as accurate as possible.

We are also not unmindful of the analysis of Dr. Etzioni discussed above concerning the process, impact, and effectiveness of government warnings. It is possible that education not so directly prescribed by the Government may be as, or more, effective than the simple issuance of what some may consider to be just another government warning. Moreover, we also believe that, where appropriate, Government should first allow the private sector the opportunity to take action before mandating a specfic approach by rule. In this case, for example, a sense of corporate responsibility and the desire to avoid potential legal liability and future regulation may motivate sufficient actions.

IV. Plan of Action

The Department thus intends to work with other appropriate Federal agencies (i.e., the Department of Health, Education and Welfare, including the Food and Drug Administration and the National Institute of Alcohol Abuse and Alcoholism), and with members of all segments of the alcoholic beverage industry, and with other interested groups to develop and implement a program of public education. Among the steps we believe should be included in these education programs are:

a. Publishing and distributing this report and those of the retained experts to segments of the public, medical schools, and interested organizations;

b. Publishing and disseminating brochures for the public and the medical profession;

c. Stimulating education programs in schools;

d. Developing public service television and radio announcements; and

e. Issuing press releases.

The Department intends to monitor carefully the impact of these efforts. We recently conducted an independent public opinion poll to measure the current level of public awareness concerning this problem. In about six months to a year, a new poll will be conducted to compare the level of public awareness. After the two polls are analyzed, a judgement will be made as to the sufficiency and impact of the private and the Government's education programs which have been undertaken.

If the evaluation of the joint industry-Government public awareness campaign indicates that there is not a sufficiently high level of public awareness of the the problems associated with the drinking of liquor, beer, and wine, particularly among women of childbearing age, or if more precise medical evidence is developed in current or future studies, then the Department will again consider requiring a warning label as a means of direct communication of this and possibly other health problems to the public.

V. Drafting Information

Officials from the Department of the Treasury and the Bureau of Alcohol, Tobacco and Firearms jointly participated in developing this progress report.

VI. Authority

Accordingly, this progress report is issued under the authority contained in section 5 of the Federal Alcohol Administration Act, 49 Stat. 981, as amended (27 U.S.C. 205).

Signed: January 23, 1979.

John G. Krogman,
Acting Director, Bureau of Alcohol, Tobacco and Firearms.

Approved: January 25, 1979.

Richard J. Davis,
Assistant Secretary,
(Enforcement and Operations).

[FR Doc. 79-4289 Filed 2-7-79; 8:45 am]

[4510-29-M]

DEPARTMENT OF LABOR

Office of the Assistant Secretary for Labor-Management Relations

[29 CFR Part 403]

LABOR ORGANIZATIONS WHICH MAY FILE SIMPLIFIED ANNUAL FINANCIAL REPORTS

AGENCY: Department of Labor.

ACTION: Comments Solicited on a Petition to Amend Regulations.

SUMMARY: Comments are requested on a petition which proposes that labor organizations with less than $100,000 total annual receipts be permitted to file the annual financial report required by the Labor-Management Reporting and Disclosure Act of 1959, as Amended (LMRDA) on the simplified Form LM-3 rather than the more detailed Form LM-2. The current regulations provide that only labor organizations with less than $30,000 total annual receipts may file the Form LM-3. The purposes of the proposed amendment are to reduce the reporting burden of smaller labor organizations and to take into account the effect of inflation since the limit of $30,000 was set in 1962.

DATE: Comments concerning the proposed amendment, alternative means to accomplish their purposes and the advisability of a public hearing must be received April 10, 1979.

ADDRESS: Submit comments to the Assistant Secretary of Labor for Labor-Management Relations, Department of Labor, 200 Constitution Avenue, N.W., Washington, D.C. 20210. The petition and comments received from the public may be inspected in Room N-5109, Department of Labor, from 8:15 A.M., to 4:45 P.M., Monday through Friday.

FOR FURTHER INFORMATION AND COPIES OF THE PETITIONS CONTACT:

Herbert Raskin (202) 523-7272.

SUPPLEMENTARY INFORMATION: The Department of Labor has received a petition pursuant to the Administrative Procedure Act, 5 USC 553(e), to amend the Department's regulations at 29 CFR 403.4(a).

Part 403 of the Department's regulations was issued pursuant to section 208 of the LMRDA. Section 208 provides that the Secretary of Labor shall have the authority to issue rules and regulations prescribing the form and publication of the reports required by Title II of the LMRDA, including simplified reports.

Subsection 403.4(a) of the Department's regulations, which the petition proposes be amended, provides that:

If a labor organization, not in trusteeship, has gross annual receipts totaling less than $30,000 for its fiscal year, it may elect, subject to revocation of the privileges as provided in section 208 of the Act, to file the annual financial report called for in section 201(b) of the Act and § 403.3 of this part on United States Department of Labor Form LM-3 (Revised) entitled "Labor Organization Annual Report (Revised)," in accordance with the instructions accompanying such form and constituting a part thereof.

The petition proposes that the present ceiling of $30,000 annual receipts entitling unions to file simplified annual financial reports be raised to $100,000.

Interested parties are invited to comment on the petition by submitting written data, views, or arguments. Comments are also invited on possible alternative means to achieve the purposes of the proposed amendment and the advisability of holding a public hearing.

Dated: February 2, 1979.

Jack A. Warshaw,
Acting Assistant Secretary for Labor-Management Relations.

[FR Doc. 79-4560 Filed 2-8-79; 8:45 am]

[4510-29-M]

[29 CFR Parts 402 and 403]

RESPONSIBILITY OF LABOR ORGANIZATIONS TO MAKE AVAILABLE TO MEMBERS INFORMATION CONTAINED IN REPORTS FILED WITH THE DEPARTMENT OF LABOR

AGENCY: Department of Labor.

ACTION: Comments Solicited on a Petition to Amend Regulations.

SUMMARY: Comments are requested on a petition which proposes that every labor organization be required to mail to each member copies of all reports and attachments filed with the Department pursuant to the Labor-Management Reporting and Disclosure Act of 1959, as Amended (LMRDA). The present regulations require labor organizations to make available to members the information contained in the reports and attachments, but set no restrictions or requirements concerning the means by which this responsibility may be fulfilled. The purposes of the proposed amendments are to ensure that labor organizations provide their members with complete information and to eliminate the expense, inconvenience and possible intimidation that may result if the information can only be obtained upon the specific request of a member and/or by inspection at labor organization offices.

DATE: Comments concerning the proposed amendments, alternative means to accomplish their purposes, and the advisability of a public hearing, must be received on or before April 10, 1979.

ADDRESS: Submit comments to the Assistant Secretary of Labor for Labor-Management Relations, Department of Labor, 200 Constitution Avenue NW., Washington, D.C. 20210. The petitions and comments received from the public may be inspected in Room N-5109, Department of Labor, from 8:15 a.m., to 4:45 p.m., Monday through Friday.

FOR FURTHER INFORMATION AND COPIES OF THE PETITION CONTACT:

Herbert Raskin (202) 523-7373.

SUPPLEMENTARY INFORMATION: The Department of Labor has received a petition pursuant to the Administrative Procedure Act, 5 USC 553(e), to amend the Department regulations at 29 CFR 402.10 and 403.8.

Parts 402 and 403 were issued pursuant to section 208 of the LMRDA. Section 208 provides that the Secretary of Labor shall have the authority to issue rules and regulations prescribing the form and publication of the reports required by Title II of the LMRDA and other rules and regulations to prevent the circumvention of those reporting requirements.

Sections 402.10 and 403.8, which the petition proposes be amended, set forth the requirement of section 201(c) of the LMRDA that every labor organization make available to its members the information contained in the reports filed with the Secretary under section 201(a) (initial information reports) and 201(b) (annual financial reports). Section 402.10 provides that:

> Every labor organization required to submit a report under section 201(a) of the Act and under this part shall make available to all its members the information required to be contained in such report, including the copy of the constitution and bylaws required to be filed therewith, and every such labor organization and its officers shall be under a duty to permit such member for just cause to examine any books, records and accounts necessary to verify such report and constitution and bylaws.

Section 403.8 provides that:

> Every labor organization required to submit a report under section 201(b) of the Act and under this part shall make available to all its members the information required to be contained in such reports, and every such labor organization and its officers shall be under a duty to permit such member for just cause to examine any books, records, and accounts necessary to verify such report.

The petition seeks an amendment to the regulations which would require unions to:

1. Mail or supply directly to members copies of the union's constitution and bylaws, and

2. Mail or supply directly to members all other information required to be reported to the Department of Labor pursuant to Sections 201(a) and (b) of the LMRDA.

Interested parties are invited to comment on the petition by submitting written data, views, or arguments. Comments are also invited on possible alternative means to achieve the purposes of the proposed amendments and the advisability of holding a public hearing.

Dated: February 2, 1979.

JACK A. WARSHAW,
Acting Assistant Secretary for Labor-Management Relations.

[FR Doc. 79-4563 Filed 2-8-79; 8:45 am]

[4510-29-M]

DEPARTMENT OF LABOR

Pension and Welfare Benefit Programs

[29 CFR Parts 2520 and 2530]

REPORTING AND DISCLOSURE AND MINIMUM STANDARDS FOR EMPLOYEE PENSION BENEFIT PLANS

Individual Benefit Reporting and Recordkeeping

AGENCY: Department of Labor.

ACTION: Proposed regulations.

SUMMARY: This document contains proposed regulations which deal with reports that must be furnished to participants in pension plans (and, in some cases, to their beneficiaries) regarding the benefits to which they are entitled, or may become entitled, at retirement, and with records that must be maintained to provide the information necessary for these reports. The Employee Retirement Income Security Act of 1974 (the Act) imposes on certain pension plans the duty to furnish reports and maintain records regarding participants' benefit entitlements and authorizes the Secretary of Labor to prescribe regulations under these provisions. The proposed regulations, if adopted, would provide necessary guidance to employers maintaining pension plans and to pension plan administrators for compliance with the statutory provisions and would enable pension plan participants to receive accurate, timely and useful information.

DATES: Written comments must be received by the Department of Labor (the Department) on or before April 10, 1979. These regulations, if adopted, would become effective 30 days after adoption.

ADDRESSES: Written comments (preferably at least six copies) should be submitted to the Division of Reporting and Disclosure, Pension and Welfare Benefit Programs, Room N-4508, U.S. Department of Labor, Washington, D.C. 20216, Attention: Proposed Individual Benefit Reporting and Recordkeeping Regulations. All comments should be clearly referenced to the section of the regulations to which they apply. All written comments will be available for public inspection at the Public Documents Room, Pension and Welfare Benefit Programs, Department of Labor, Room N-4677, 200 Constitution Avenue, N.W., Washington, D.C. 20216.

FOR FURTHER INFORMATION CONTACT:

Robert Doyle, Pension and Welfare Benefit Programs, U.S. Department of Labor, Washington, D.C. 20216, (202) 523-8671 (not a toll-free number).

SUPPLEMENTARY INFORMATION: Notice is hereby given that the Department of Labor has under consideration proposed regulations dealing with reports that must be furnished to individual participants (and, in some cases, their beneficiaries) regarding their benefit entitlements under employee pension benefit plans, and with records that must be maintained to provide the information necessary for these reports. These regulations are proposed under the authority contained in sections 105, 209, and 505 of the Act (Pub. L. 93-406, 88 Stat. 849, 865, and 894, 29 U.S.C. 1025, 1059, and 1135).

STATUTORY PROVISIONS

Section 105(a) of the Act generally requires each administrator of an employee pension benefit plan to furnish to any plan participant or beneficiary who so requests in writing, a statement indicating, on the basis of the latest available information, the total benefits accrued and the nonforfeitable pension benefits, if any, which have accrued, or the earliest date on which such benefits will become nonforfeitable. Similarly, section 209(a)(1) of the Act generally requires the plan administrator of a plan subject to Part 2 of Title I of the Act (i.e., in general, pension plans) to make a report to each employee who is a participant under the plan and who requests such report in accordance with regulations of the Secretary of Labor. The report required under section 209(a)(1) must be sufficient to inform the employee of his accrued benefits under the plan and the percentage of such benefits which are nonforfeitable. Under both sections 105(a) and 209(a)(1) no participant is entitled to more than one report on request during any single 12-month period. Section 209(a) also requires similar reports to be provided to a participant who terminates service with the employer or has a one-year break in service. Sections 105(d) and 209(a)(2) authorize the Secretary of Labor to prescribe regulations specifying the extent to which these reporting requirements apply to plans adopted by more than one employer. In addition, section 105(c) of the Act requires plan administrators to provide to participants with respect to whom registration statements are filed with the Internal Revenue Service under section 6057 of the Internal Revenue Code of 1954 (the Code) individual statements setting forth the information contained in the registration statements.

In order to enable employees' benefits to be determined, so that the reporting requirements of section 209 can be met, section 209(a)(1) generally requires records to be maintained by employers and authorizes the Secretary of Labor to prescribe regulations governing such records. The information necessary for individual benefit reporting is to be furnished by the employer to the plan administrator. In the case of a plan adopted by more than one employer, however, section 209(a)(2) requires records to be maintained by the plan administrator, based on information to be provided by each such employer.

PROPOSED INDIVIDUAL BENEFIT REPORTING REGULATIONS

1. *Benefit statement.* Under the proposed regulations, the benefit statement is the basic document to be used for providing individual benefit information to participants, whether upon their request, upon termination or upon a one-year break in service. The benefit statement must state the amount of a participant's accrued benefit regardless of the extent to which it is nonforfeitable (i.e., "vested"), the percentage of the accrued benefit which is vested, and the accrued vested benefit to which the participant is entitled. The regulations specify the form in which accrued benefits and accrued vested benefits must be reported. These rules are designed to ensure that the information provided to an individual participant is presented in a meaningful fashion, without imposing excessive administrative costs on plans. In the case of defined benefit plans, the accrued benefit and the amount of the participant's accrued vested benefit are to be expressed first in terms of a straight-life annuity payable at normal retirement age, or, if the plan does not offer such an option, in terms of the primary option offered by the plan (e.g., annuity for a term of years, lump-sum distribution, etc.). However, if the participant has made an election regarding the form in which his or her benefits are to be paid, the accrued benefit and accrued vested benefit must be stated in that form. In the case of an individual account plan, the participant's account balance is treated as the accrued benefit.

If the accrued benefit and accrued vested benefit are not expressed as amounts payable through a joint and survivor annuity, the benefit statement must explain that the periodic benefit the participant will receive at retirement may be reduced on account of survivor benefits. This explanation is not required if the participant is unmarried or has elected not to receive a joint and survivor annuity, but a plan would not be prohibited from printing an accurate explanation of the effect of a joint and survivor annuity on all benefit statements, regardless of the marital status of participants receiving them or elections they have made. The Department has considered a requirement that accrued benefits and accrued, vested benefits be stated in the form of a joint and survivor annuity for married participants who have not elected not to receive benefits in that form. It decided against proposing this requirement because many participants who are married and have not elected to receive benefits otherwise than in the form of a joint and survivor annuity as of the date of a benefit statement may undergo a change in marital status or may make such an election before retirement. Because a benefit statement showing benefits in the form of a joint and survivor annuity would be less useful to these participants, the Department believes that the additional administrative costs to plans of preparing a statement containing such information may outweigh the utility of providing such information.

If the participant has no vested accrued benefits, the benefit statement must indicate the earliest dates on which any benefits will become vested. If the plan does not provide that all of a participant's accrued benefits derived from employer contributions become nonforfeit>able on a single date, (i.e. if the plan does not provide for "cliff" vesting), the benefit statement must indicate the earliest date on which the participant may attain each subsequent level of nonforfeitable accrued benefits derived from employer contributions and must refer the participant to the description of the plan's vesting provisions in the Summary Plan Description.

The benefit statement must also state the date as of which benefit entitlements are reported.

In addition to the foregoing, the benefit statement must include certain information used as a basis for calculation of the participant's benefits in order to enable the participant to review such information for errors. This information is the participant's years of service for purposes of vesting, the participant's period of participation for purposes of benefit accrual and, if relevant, the participant's earnings taken into account for purposes of benefit accrual.

The benefit statement must also include a statement of circumstances which may result in a reduction or elimination of accrued vested benefits, with cross references to relevant portions of the Summary Plan Description; a statement urging the participant to bring promptly to the attention of the plan administrator anything in the benefit statement that does not appear correct; and information regarding the availability of plan records for inspection.

The benefit statement must be written in a manner calculated to be understood by the average plan participant or beneficiary and its format must not have the effect of misleading or misinforming the participant or beneficiary. In particular the benefit statement must make clear that a participant whose benefits are not 100% nonforfeitable will not necessarily receive the amount of the accrued benefits shown in the benefit statements. Under certain circumstances, plans must offer foreign language assistance to participants who are not literate in English to aid them in understanding their benefit statements, as is required under regulations relating to the Summary Plan Description (see 29 CFR 2520.102-2(c)).

The benefit statement must be based on the latest available information. Benefit statements based on records that meet those standards for sufficiency set forth in the proposed recordkeeping regulations will be deemed to be based on the latest available information. Although sufficient, a plan's records may nevertheless be incomplete if, for example, a plan did not maintain complete records prior to the adoption of these regulations. In these instances, the benefit statement must indicate that the records on which it is based are incomplete and the participant or beneficiary must be offered an opportunity to provide other information relating to his benefit entitlements. The plan administrator must prepare a benefit statement based on such information. To the extent that a benefit statement is based on information supplied by a participant or beneficiary, it may indicate that it is conditioned upon the accuracy of that information.

In some cases a benefit statment may later prove to be inaccurate. Inaccuracies may arise because plan records are incomplete (without necessarily being insufficient for purposes of these regulations), because plan records are carelessly maintained, because inaccurate information has been provided to the plan administrator, because of clerical errors, or for other reasons. In some instances errors may be undetected until a participant reaches retirement, while in others, the error may be obvious on the face of the benefit statement. The Department solicits comments on whether it should adopt regulations and if so, the substance of any such regulations concerning the questions whether, to what extent, and under what circumstances liability should be imposed for payment of benefits in accordance with the information provided in the benefit statement.

The Department has received communications relating to the development of model benefit statements, but it has not made a determination with respect to whether and to what extent it should propose model statements. If the Department decides to propose model statements, it will publish the statements in the FEDERAL REGISTER. At that time, public comments will be solicited on the form and contents of the proposed model benefit statements, as well as on the appropriateness of adopting such models for use by plan administrators either on a mandatory or on a discretionary basis.

2. *furnishing benefit statements on request.* Both sections 105(a) and 209(a)(1)(A) of the Act require plan administrators of pension plans to furnish individual benefit information on request. The requirements of both statutory provisions are substantially similar in this regard; accordingly, these requirements are dealt with in a single section of the regulations (§ 2520.105-2). The only significant difference between the two statutory provisions is that section 105(a) applies to requests by both participants and their designated beneficiaries, while section 209 (a)(1)(A) applies only to requests by participants. The regulations, therefore, apply to requests by both participants and beneficiaries, so as to cover the broadest range of circimstances under which benefit statements must be furnished on request.

The plan administrator may establish a simple and convenient procedure for the submission of requests for benefit statements. If such a procedure is established and communicated to participants and beneficiaries, the plan administrator need not comply with requests that do not conform to the procedure. If no such procedure is established, however, the plan administrator must comply with any request in writing by a participant or beneficiary. The plan administrator may not require information regarding a participant's employment record as a condition for furnishing the benefit statement (although such information may be requested).

A benefit statement must be furnished to a participant or beneficiary within 60 days of the request. The benefit statement furnished upon request must report benefits as of a date not more than 181 days earlier than the date on which the statement is furnished. This period was chosen because it is the minimum period necessary to allow a multiple employer plan to base a benefit statement on information required to be available to the plan administrator on the date of the request and to allow 60 days after the date of the request to prepare the statement.[1] The plan administrator is not required to furnish more than one benefit statement to a participant or beneficiary on request during any 12-month period.

As an alternative to furnishing benefit statements on request, the regulations permit a plan to provide benefit statements to each participant annually. If this alternative is used, however, the plan administrator must furnish at least one duplicate of the annual benefit statement to any participant or beneficiary who requests it during the year.

3. *Furnishing benefit statements upon termination and after one-year breaks in service.* The plan administrator of a single-employer pension plan must generally furnish a benefit statement to a participant who terminates service with the employer within 60 days of the date of termination or to a particpant who incurs a one-year break in service within 60 days after the end of the plan year in which the break in service occurs. the benefit statement must report benefits as of the date of termination or the end of the plan year in which the participant incurs the one-year break in service, as the case may be.

To avoid duplication, a participant who receives a benefit statement in connection with termination of service is not required to receive a benefit statement when he subsequently incurs a one-year break in service unless the information provided in the second benefit statement would be different than that provided in the earlier one. Similarly, a participant who receives a benefit statement upon incurring a one-year break in service and thereafter terminates service with the employer or incurs a subsequent one-year break in service is not required to be furnished an additional benefit statement unless the information in the second benefit statement would be different from that in the first. Special rules are provided for plans using the elapsed time method of crediting service.

In multiple employer plans participants frequently move from one contributing employer to another. Thus, termination of service with any particular employer in a multiple employer plan is not necessarily a significant event in a participant's employment history and often does not result in a significant break in the continuity of a participant's coverage under the plan. With regard to these plans, a one-year break in service is more likely than a termination with any individual employer to indicate that a participant has ceased to perform service that may be credited towards benefits provided by the plan. Accordingly, plan administrators of multiple employer plans are only required to furnish benefit statements upon request and after a one-year break in service.

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[1] If a request occurs on the day before the deadline for employers to furnish a quarterly report to the plan administrator, as required under the recordkeeping regulations, the most recent information available to the plan administrators on the date of the request will be information provided by employers in their previous quarterly reports three months (i.e., up to 91 days) earlier. Ths information will relate to benefit entitlements as of a date 30 days earlier than the deadline for the previous quarterly report—i.e., benefit entitlements as of a date 121 days earlier than the date of the request. If the plan administrator is allowed 60 days after the request to prepare the benefit statement, the benefit statement in these circumstances will report benefits as of a date 181 days earlier than the date of the request. Although this period is designed to accomodate the special problems of multiple employer plans, other plans will need time to prepare benefit statements, as well. Accordingly, the 181-day period applies to all plans.

In the case of particpants who have no vested benefits, the regulations permit plan administrators to satisfy the requirements to furnish individual benefit information upon termination or after a one-year break in service, as the case may be, by furnishing a statement of non-vested status. The statement of non-vested status informs the participant that he has no nonforfeitable benefits. It does not, however, provide information regarding accrued benefits. Thus, the statement of non-vested status does not require extensive calculations and may be presented to all participants entitled to it in a standardized form, with no need for preparation of an individual statement for each. The Department believes that use of statements of non-vested status will result in lower administrative costs for some plans. However, the statement of non-vested status must inform the participant that he or she may request a benefit statement with more detailed information regarding his or her individual accrued (non-vested) benefits. Such a request must be treated as a request for a benefit statement.

4. *Corrections to the benefit statement.* A participant who raises a question with regard to the accuracy of a benefit statement must be given an opportunity to furnish information regarding his benefit entitlements to the plan administrator. Within a reasonable time, the plan administrator must make a decision with regard to the question raised by the participant and notify the participant of the decision, the basis for the decision, and any change in benefit entitlements as a result of the decision. The plan administrator is not required to prepare a benefit statement based on the information furnished by the participant (except, as noted above, in situations where the benefit statement is based on incomplete records).

5. *Statement of deferred vested benefits.* Under § 105(c), a statement of deferred vested benefits must be furnished by a plan administrator who is required to register with the Internal Revenue Service under section 6057 of the Code to each participant described in section 6057(a)(2)(C), i.e., each particpant who, during the plan year for which registration is required, separated from service covered under the plan, is entitled to a deferred vested benefit under the plan as of the end of the plan year, and with respect to whom retirement benefits were not paid under the plan. Section 6057(e) of the Code requires plan administrator to furnish similar individual statements to the same class of participants. The reuqirements of section 105(c) will be deemed to be satisfied if, in accordance with section 6057(e) of the Code and regulations thereunder, the plan administrator furnishes to the particpant the individual statement required under the latter section.

PROPOSED INDIVIDUAL BENEFIT RECORDKEEPING REGULATIONS

1. *Duty to maintain records.* In the case of a plan maintained by as single employer, the proposed regulations impose on the employer maintaining the plan the duty to maintain records for determining particpants' individual benefit entitlements. The employer must furnish to the plan administrator such information as is necessary to enable the plan administrator to comply with the individual benefit reporting requirements.

Because multiple employer plans appear to present different problems than single employer plans in the recordkeeping area, they are treated differently in the proposed regulations. In the case of a multiple employer plan, the duty to maintain individual benefit records is imposed on the plan administrator rather than on the employer. The records are to be based on information in Service Reports furnished to the plan administrator by employers no less frequently than on a quarterly basis, within 30 days after the end of each quarter of the plan year. If the plan administrator fails to receive an employer's Service Report or an employer's Service Report does not contain all the necessary information or the plan administrator has reason to believe that the information in the Service Report is inaccurate, the plan administrator must make reasonable efforts to obtain accurate and complete information. The plan administrator may prescribe reasonable rules and regulations regarding the format, manner of reporting and reportable information, and may prescribe forms and worksheets for reporting.

2. *Sufficiency of records.* The individual benefit records maintained in connection with a single employer plan will be deemed to be sufficient if they contain every fact with respect to service with the employer who maintains the plan after the effective date of the regulations, or, in the case of a plan adopted after the effective date, every fact relating to such service after the date of adoption, that is relevant to a determination of each employee's benefit entitlements under the plan. Certain facts with respect to service before the initial recordkeeping date specified in the regulations will be relevant in determining vested accrued benefits. The proposed regulations do not require records of these facts to be compiled, but if such records already exist, they must be retained.

With regard to multiple employer plans, the Department recognizes that it may not be possible for a plan administrator to compile complete individual benefit records. The Department, therefore, believes it would be inappropriate to impose on plan administrators of multiple employer plans the same standard of sufficiency as is imposed on single employer plans. Accordingly, records maintained by the plan administrator of a multiple employer plan will be deemed to be sufficient under the proposed regulations if such records accurately reflect the Service Reports furnished by employers and if the Service Reports are required to contain the same information as the records maintained by an employer in connection with a single employer plan: i.e., they must include every fact which relates to service with each employer during the quarter and which would be relevant to a determination of the benefit entitlements of each employee covered under the plan, including, for example, facts regarding service in a job classification not covered by the plan during the quarter. Under certain circumstances section 210 of the Act requires service not performed in job classifications covered by a multiple employer plan to be credited to a participant, particularly for purposes of vesting. These circumstances generally occur when an employee moves between a covered and a non-covered job classification. When an employee moves from a covered to a non-covered job classification, the employer must continue to report information regarding the employee to the plan administrator although the employee no longer performs service in a covered job classification, if this information is relevant to a determination of the employee's individual benefit entitlements.

Records relating to service before the effective date of the regulation do not have to be developed, but if such records already exist, they must be retained.

3. *Retention and preservation of records.* Individual benefit records must be retained as long as a possibility exists that they might be relevant to a

determination of the benefit entitlement of the participant or the participant's beneficiary. However, if they are lost or destroyed due to circumstances beyond the control of the person responsible for their maintenance, they will not be deemed insufficient solely for that reason. They must be maintained in a safe and accessible place at the offices of the plan administrator or the employer, as the case may be, or at special recordkeeping offices. They may be preserved on clear microfilm reproductions if viewing equipment is available for inspecting them. Electronic data processing of records may be used provided that original records or worksheets, or microfilm copies thereof, are retained. Individual benefit records must be available for inspection by participants, beneficiaries and their representatives. Representatives of the Department have the authority to inspect plan records under the circumstances specified in section 504(a)(2) of ERISA. If an employer or plan administrator ceases to be responsible for the maintenance of individual benefit records, they must be transferred to the person who becomes responsible for their maintenance.

4. *Definition of "multiple employer plan".* The treatment of multiple employer plans, both in the individual benefit reporting and in the recordkeeping regulations, differs from that of other plans. In the reporting area, multiple employer plans, unlike other plans, are not required to furnish an individual benefit statement upon an employee's termination of employment, until an employee completes a one-year break in service. Other plans must furnish a statement after a one-year break in service unless they have already done so upon termination, but it is anticipated that in plans that are not multiple employer plans, an employee will generally terminate employment before completing a one-year break in service. Thus, as a practical matter, plans other than multiple employer plans will furnish an individual benefit statement when an employee terminates. In the recordkeeping area, the duty to maintain records is imposed on the plan administrator of a multiple employer plan and employers sponsoring the plan are required to furnish Service Reports to the plan administrator. In the case of a plan other than a multiple employer plan, the duty to maintain records is imposed on the employer.

Since these differences in treatment are keyed to the definition of "multiple employer plan," that definition is a significant element in the regulations.

For purposes of both reporting and recordkeeping, the regulations follow the language of section 209(a)(2) of ERISA, which authorizes the Secretary of Labor to prescribe regulations governing recordkeeping by a plan which more than one employer adopts. The individual benefit reporting and recordkeeping regulations are generally consistent, in this regard, with regulations issued by the Treasury Department under section 6057 of the Internal Revenue Code of 1954 (*see* 26 CFR 301.6057-1(b)(1) 43 FR 38002, August 25, 1978), which provide special rules with respect to plans to which more than one employer contributes.

The definition of "multiple employer plan" in these regulations includes a wide variety of plans with different characteristics. For example, some of these plans may be collectively bargained multiemployer plans; others may be plans maintained by a group of employers under common control; still others may be plans maintained by a group of unaffiliated employers in a situation where no collective bargaining agreement is involved. Becaused of the variety of such plans currently in existence, the Department recognizes that, in some cases, it may not be appropriate to apply the special rules for multiple employer plans to a plan adopted by more than one employer, either for purposes of benefit reporting or for purposes of recordkeeping or for both. Comments are, therefore, solicited as to the appropriate class of plans to be treated as "multiple employer plans" for purposes of these regulations.

Accordingly, it is proposed to amend Parts 2520 and 2530 of Chapter XXV of Title 29 of the Code of Federal Regulations by adding to Part 2520 §§ 2520.105-1 through 2520.105-11 and by adding to Part 2530 §§ 2530.209-1 through 2530.209-9, to read as follows:

Subpart G—Individual Benefit Reporting

Sec.
2520.105-1 General.
2520.105-2 Furnishing statements or request.
2520.105-3 Furnishing statements upon termination.
2520.105-4 Furnishing statements after one-year breaks in service.
2520.105-5 Frequency of benefit statements.
2520.105-6 Style and format.
2520.105-7 Contents of the benefit statement and statement of non-vested status.
2520.105-8 Basis of Benefit Statement.
2520.105-9 Manner of furnishing individual benefit reporting documents.
2520.105-10 Corrections to the benefit statements.
2520.105-11 Statement of Deferred Vested Benefits.

AUTHORITY: Sections 105, 209 and 505 of the Act (Pub. L. 93-406, 88 Stat. 849, 865 and 894, 29 U.S.C. 1025, 1059 and 1135).

Subpart G—Individual Benefit Reporting

§ 2520.105-1 General.

(a) *Scope and Purpose.* Sections 105 and 209 of the Employee Retirement Income Security Act of 1974 (the Act) impose on plan administrators of employee pension benefit plans certain requirements to report to plan participants and beneficiaries information regarding their individual benefit entitlements. Specifically section 105 of the Act provides among other things, that each plan administrator of an employee pension benefit plan shall furnish to any plan participant or beneficiary who so requests in writing, a statement of certain information relating to his or her individual benefit entitlements. Section 209(a) of the Act provides, among other things, that the plan administrator of a plan subject to Part 2 of Title I of the Act, with certain exceptions to be provided in regulations issued by the Secretary of Labor, shall make a report regarding individual benefit entitlements, in accordance with regulations prescribed by the Secretary of Labor, to each employee who is a particpant under the plan and who either requests such report (in accordance with regulations issued by the Secretary of Labor), terminates service with the employer, or has a one-year break in service (as defined in section 203(b)(3)(A) of the Act). In addition, section 105(c) provides that a plan administrator who is required to register under section 6057 of the Internal Revenue Code of 1954 (the Code) shall furnish to certain plan participants individual statements relating to their deferred vested benefits. Sections 2520.105-2 through 2520.105-11 contain regulations under sections 105 and 209(a) of the Act, which relate to the reporting of individual benefit entitlements. Since requests for benefit information are the subject of substantially identical requirements in both sections 105 and 209(a), § 2520.105-2 deals with individual benefit reporting at the request of a plan participant or beneficiary, as required under both sections of the Act. Section 2520.105-3 deals with individual benefit reporting to a plan particpant who terminates his service with the employer, as required under section 209(a), and § 2520.105-4 deals with individual benefit reporting to a plan participant who incurs a one-year break in service, also as required under section 209(a). Sections 2520.105-5 through 2520.105-10 set forth additional requirements relating to reporting of individual benefit entitlements. Section 2520.105-11 relates to section 105(c), which requires plan administrators who register under section 6057 of the Code to furnish statements of deferred vested retirement benefits to certain plan participants. Recordkeeping requirements relating to information necessary for determining individual benefit entitlements are set forth in §§ 2530.209-1 through 2530.209-6.

(b) *Individual benefit reporting documents.* Sections 2520.105-2 through 2530.105-11 deal with three types of documents: (1) the benefit statement that must be furnished to plan participants or beneficiaries upon request, upon termination of employeement or upon a one-year break in service; (2) the statement of non-vested status that may be sustituted for the benefit statement under certain circumstances; and (3) the statement of deferred vested retirement benefits that must be furnished to participants in connection with certain filings by the plan administrator under section 6057 of the Code. These documents are collectively referred to in §§ 2520.105-2 through 2520.105-11 as "individual benefit reporting documents."

§ 2520.105-2 Furnishing statements on request.

(a) *General.* The administrator of an employee pension benefit plan subject to Parts 1 or 2 of Title I of the Act shall furnish a benefit statement which satisfies the requirements of this section and §§ 2520.105-5 through 2520.105-10 to any plan participant or beneficiary who requests in writing information regarding his or her individual benefit entitlements or possible benefit entitlements under the plan.

(b) *Procedure for submission of requests for benefit statements.* The plan administrator may establish a simple procedure, convenient to participants and beneficiaries, for the submission of requests for benefit statements. If the plan administrator establishes such a procedure and communicates it in writing to plan participants and beneficiaries, the plan administrator will not be required to comply with a request made in a manner which does not conform to the established procedure, provided that the participant or beneficiary is notified that he or she has failed to comply with the procedure and is furnished an explanation of how to comply with the procedure. If no such procedure is established, any request in writing by a participant or beneficiary for information regarding his or her benefit entitlements or possible benefit entitlements under the plan shall be deemed a request to the plan administrator for the purposes of this section. A participant or beneficiary who requests a benefit statement may not be required to furnish information regarding the participant's employment record as a condition to receiving the benefit statement.

(c) *Date of furnishing.* A benefit statement shall be furnished to a participant or beneficiary within 60 days of the date of a request by the participant or beneficiary.

(d) *Date of information.* A benefit statement furnished at the request of a participant or beneficiary shall report benefits as of a date not more than 181 days earlier than the date on which the statement is furnished.

(e) *Annual benefit statement alternative.* The requirement to furnish a benefit statement on request to a participant or a beneficiary as set forth in paragraph (a) of this section shall not apply if:

(1) The plan furnishes an annual benefit statement to each participant or beneficiary,

(2) The annual benefit statement furnished by the plan is based on information as of a date not more than 91 days prior to the date on which the statement is furnished, and

(3) The plan administrator furnishes a duplicate of the annual benefit statement to any participant or beneficiary who requests information concerning his or her benefit entitlements or possible benefit entitlements under the plan. The duplicate shall be mailed to an address provided by the requesting participant or beneficiary or personally delivered to the participant or beneficiary. However, a participant or beneficiary shall not be entitled to more than one duplicate statement in a twelve month period.

§ 2520.105-3 Furnishing statements upon termination.

(a) *General.* Except as provided in paragraphs (b) and (e) of this section, the plan administrator of an employee pension benefit plan subject to Part 2 of Title I of ERISA shall furnish a benefit statement to a participant who terminates service with the employer.

(b) *Non-vested participants.* In the case of a participant who has no nonforfeitable benefits under the plan, the plan administrator will comply with the requirements of paragraph (a) to furnish a benefit statement to a participant who terminates service with the employer if the plan furnishes a participant with a "statement of non-vested status" described in § 2520.105-7(b).

(c) *Date of furnishing.* A benefit statement or statement of non-vested status shall be furnished within 60 days of the date the participant terminates service with the employer.

(d) *Date of information.* A benefit statement furnished upon termination of service by a participant shall report benefits as of the date of termination.

(e) *Multiple employer plan.* the requirement set forth in section 209(a)(1)(B) of the Act and this section to furnish benefit a statement to a participant upon termination of service shall not apply with respect to any plan which more than one employer adopts.

§ 2520.105-4 Furnishing statements after 1-year break in service.

(a) *General.* A plan administrator of an employee pension benefit plan subject to Part 2 of Title I of the Act shall furnish a benefit statement to a participant who incurs a one-year break in service as defined in section 203(b)(3)(A).

(b) *Definition of one year break in service.* (1) For purposes of this section the term "one-year break in service" shall mean a one-year break in service for vesting purposes as defined in the plan or, in the case of a plan under which service is credited for purposes of vesting according to the elapsed time method permitted under § 2530.200b-9, a one-year period of severance for vesting purposes, as defined in § 2530.200b-9(d)(4).

(2) If a plan, other than a plan that credits service for vesting purposes according to the elasped time method, does not provide for one-year breaks in service for vesting purposes, a plan participant shall be deemed to have incurred a one-year break in service under the plan in any vesting computation period in which the participant does not complete more than 500 hours of service for vesting purposes under the plan.

(c) *Non-vested partcipants.* In the case of a participant who has no nonforfeitable benefits under the plan, the plan administrator will comply with the requirements of paragraph (a) to furnish a benefit statement to a participant who incurs a one-year break in service if the plan furnishes such participant with a "statement of non-vested status" described in § 2520.105-7(b).

(d) *Date of furnishing.* A benefit statement or statement of non-vested status shall be furnished within 60 days of the end of the plan year in which a participant incurs a one-year break in service.

(e) *Date of information.* A benefit statement furnished after a one-year break in service shall report benefits as of the end of the plan year in which the participant incurs such one-year break in service.

§ 2520.105-5 Frequency of benefit statements.

A participant or beneficiary shall not be entitled to receive more than one benefit statement upon request under § 2520.105-2 in any 12-month period. A participant who receives a benefit statement upon termination or upon incurring a one-year break in service is not required to be furnished a second benefit statement upon a subsequent termination or upon incurring a subsequent one-year break in service if the information that would be contained in a second benefit statement would be identical to that contained in the earlier benefit statement.

§ 2520.105-6 Style and format.

(a) *General.* Individual benefit reporting documents shall be written in a manner calculated to be understood by the average plan participant or beneficiary. The format of these documents must not have the effect of misleading or misinforming the participant or beneficiary.

(b) *Foreign languages.* In the case of either-

(1) A plan that covers fewer than 100 participants at the beginning of a plan year, and in which 25 percent or more of all plan participants are literate only in the same non-English language, or

(2) A plan which covers 100 or more participants at the beginning of the plan year and in which the lesser of:

(i) 500 or more participants, or

(ii) 10% or more of all plan participants are literate only in the same non-English language, the plan administrator for such plan shall communicate information relating to any procedure for requesting benefit statements that may have been established by the plan administrator in accordance with § 2520.105-2(b) in the non-English language common to these participants and shall provide these participants with either a benefit statement in the non-English language or an English-language benefit statement or statement of non-vested status which prominently displays a notice, in the non-English language common to these participants, offering them assistance. The assistance provided need not involve written materials, but shall be given in the non-English language common to these participants and shall be calculated to provide them with a reasonable opportunity to become informed as to their benefits under the plan. The notice offering assistance shall clearly set forth in the non-English language common to the participants the procedures they must follow in order to obtain assistance.

§ 2520.105-7 Contents of the benefit statement and statement of nonvested status.

(a) *Benefit statement.* Each benefit statement shall contain the following information:

(1) *Accrued benefits.* The participant's total accrued benefits. Unless the participant's benefits under the plan have become 100% non-forfeitable, the benefit statement shall, in describing the accrued benefit, make it clear that the amount of the accrued benefit is not necessarily the amount to be received by the participant. The accrued benefits shall be stated in the form described below:

(i) In the case of a defined benefit plan, the accrued benefit shall be stated in the form of a stright life annuity payable at normal retirement age, or, if the plan does not offer such a benefit, in the form of the primary option offered by the plan. However, if the participant has made an election under the terms of the plan regarding the manner in which his retirement benefits will be paid, the accrued benefit shall be stated in the form of the benefit which the participant would receive pursuant to such election. In the case of a married participant who has not elected not to take a joint and survivor annuity, if the accrued benefit is not stated in the form of an annuity for the joint lives of the participant and his or her spouse, the benefit statement shall explain that the amount of the periodic benefit the participant will receive at retirement may be reduced on account of survivor benefits.

(ii) In the case of an individual account plan, the accrued benefits are the participant's account balance.

(2) *Nonforfeitability.* The percentage of the participant's accrued benefits which is nonforfeitable within the meaning of section 203(a)(3) of the Act. If the participant has no nonforfeitable pension benefits, the benefit statement shall indicate the earliest date on which any benefits may become nonforfeitable. If the plan does not provide that all of a participant's accrued benefits derived from employer contributions become nonforfeitable on a single date, the statement shall indicate the earliest dates on which the participant may attain each subsequent level of nonforfeitable benefits derived from employer contributions and the page(s) of the Summary Plan Description which describe the plan's provisions regarding the nonforfeitability of accrued benefits.

(3) *Nonforfeitable benefits.* (i) *Defined benefit plans.* To the extent that the participant's benefits are nonforfeitable (within the meaning of section 203(a)(3) of the Act), the benefit statement shall indicate the nonforfeitable monthly benefit which the participant will receive at normal retirement age in the same form as accrued benefits are required to be reported under paragraph (a)(1) of this section.

(ii) *Individual account plans.* To the extent that the participant's account balance is nonforfeitable, the benefit statement shall indicate the amount of the nonforfeitable portion of such account balance. If the plan offers benefits in the form of an annuity, the statement may also report the monthly benefit which the participant will receive at normal retirement age based on the present value of his account balance. If the plan reports the monthly benefit, it shall be stated in accordance with the requirements of paragraph (a)(1)(i) of this section.

(4) *Other information.* (i) The participant's years of service for purposes of vesting, period of participation for purposes of accrual (or, in the case of an individual account plan, the years for which contributions are allocated to the participant's account) and, if relevent, the earnings taken into account for purposes of benefit accrual. The statement shall indicate the pages of the Summary Plan Description which describe the plan's vesting requirements and method of accrual.

(ii) Circumstances, if any, which may result in a reduction or elimination of accrued benefits and circumstances, if any, which may result in a reduction or elimination of nonforefeitable benefits, with references to the relevant portions of the Summary Plan Description which describe these occurrences and their effects.

(iii) A statement urging the participant or beneficiary to bring promptly to the attention of the plan administrator anything in the statement that does not appear correct.

(iv) A statement informing the participant or beneficiary that the plan records upon which the information in the benefit statement is based are available for inspection upon request and the name, address and telephone number of the person to whom requests should be directed.

(v) The date as of which benefit entitlements are reported.

(b) *Statement of non-vested status.* A statement of non-vested status shall inform the participant that the participant has no nonforfeitable benefits under the plan and that the participant may obtain upon request a benefit statement indicating the participant's accrued benefits, if any, and the earliest date on which any benefits may become nonforfeitable.

§ 2520.105-8 Basis of Benefits Statement.

(a) *General.* A benefit statement shall be based on the latest available information. A benefit statement will be deemed to be based on the latest available information if it reports benefit entitlements as of the date benefits must be reported under §§ 2520.105-2. 2520.105-3, or § 2520.105-4, as appropriate, or any subsequent date, and if it is based on plan records which comply with the requirements of § 2530.209-3.

(b) *Benefit statement based on incomplete plan records.* To the extent that the records of a plan are incomplete, an opportunity to provide information relating to benefit entitlements shall be offered to a participant or beneficiary entitled to a benefit statement and the benefit statement shall be based on such information. In any case in which a benefit statement is based on incomplete plan records, the statement shall so indicate. A statement based in whole or in part on information supplied by a participant or beneficiary may state that it is conditioned upon the accuracy of that information.

§ 2520.105-9 Manner of furnishing individual benefit reporting documents.

Individual benefit reporting documents shall be furnished by first class mail to the participant or beneficiary at his or her last known address or by personal delivery.

§ 2520.105-10 Corrections to the benefit statement.

A participant or beneficiary who raises questions regarding the accuracy of the benefit statement shall be given a reasonable opportunity to point out information in the benefit statement that he or she believes inaccurate and to furnish to the plan administrator information which such participant or beneficiary believes relevant in determining his or her benefit entitlements. The plan administrator shall make reasonable attempts to determine whether the plan's records or the benefit statement are inaccurate and to verify the information furnished by the participant or beneficiary. Within a reasonable time after the plan administrator receives a communication questioning the accuracy of the benefit statement from a participant or beneficiary, the plan shall notify the participant or beneficiary in writing or the administrator's decision with respect to such matter, and of the basis for such decision, and any change in benefit entitlements as a result of the decision.

§ 2520.105-11 Statement of Deferred Vested Benefits.

Section 105(c) of the Act provides that each administrator required to register under section 6057 of the Internal Revenue Code of 1954 (the Code) shall furnish to each participant described in section 6057(a)(2)(C) of the Code an individual statement setting forth the information with respect to the participant which is required to be contained in the registration statement required by section 6057(a)(2) of the Code. Section 6057(e) of the Code also requires a plan administrator who is required to file a registration statement under section 6057(a) to furnish to each such participant a similar individual statement.

A participant described in section 6057(a)(2) of the Code is a participant who, during the plan year for which the annual registration statement is required, separated from service covered by the plan, is entitled to a deferred vested benefit under the plan as of the end of the plan year, and with respect to whom retirement benefits were not paid under the plan. The requirements of section 105(c) of the Act will be deemed to be satisfied if an individual statement is furnished to a participant in accordance with section 6057(e) of the Code and the regulations thereunder.

Subpart E—Individual Benefit Recordkeeping

Sec.
2530.209-1 General.
2530.209-2 Recordkeeping requirements.
2530.209-3 Maintenance of records and furnishings of information.
2530.209-4 Sufficiency of records.
2530.209-5 Period for which records must be retained.
2530.209-6 Preservation of records by employer and plan administrator.
2530.209-7 Inspection.
2530.209-8 Transfer of records.
2530.209-9 Definition of "Multiple Employer Plan".

AUTHORITY: Sections 105, 209 and 505 of the Act (Pub. L. 93-406, 88 Stat. 849, 865 and 894, 29 U.S.C. 1025, 1059 and 1135).

Subpart E—Individual Benefit Recordkeeping

§ 2530.209-1 General.

Section 209 of the Employee Retirement Income Security Act of 1974 (the Act) contains certain requirements relating to the maintenance of records for determining the benefits to which individual participants in employee pension benefit plans subject to Part 2 of Title I of the Act are or may become entitled. Sections 2530.209-2 through 2530.209-9 contain regulations with respect to the individual benefit recordkeeping requirements set forth in section 209 of the Act. In addition to individual benefit recordkeeping requirements, section 209 also contains provisions dealing with individual benefit reporting. Regulations relating to the individual benefit reporting provisions of section 209 are set forth in § 2520.105-1 through § 2520.105-10.

§ 2530.209-2 Recordkeeping requirement.

For every employee pension benefit plan subject to Part 2 of Title I of the Act, records shall be maintained with respect to each employee covered under the plan sufficient to determine the benefits due or which may become due to such employee.

§ 2530.209-3 Maintenance of records and furnishing of information.

(a) *Single-employer plans.* In the case of a plan which is not a multiple employer plan (as defined in § 2530.209-9), the records required to be maintained under § 2530.209-2 shall be maintained by the employer maintaining the plan. The employer shall furnish to the plan administrator such information as is necessary to enable the plan administrator to comply with the individual benefit reporting requirements set forth in § 2520.105-1 through § 2520.105-11.

(b) *Multiple employer plans.* (1) *Maintenance of records.* In the case of a plan which is a multiple employer plan (as defined in § 2530.209-9), the records required to be maintained under § 2530.209-2 shall be maintained by the plan administrator.

(2) *Reporting by sponsoring employers.* Each employer who is a sponsoring employer of a multiple employer plan shall furnish to the plan administrator, not later than 30 days after the end of each quarter of the plan year, one or more written Service Reports. The Service Reports shall contain every fact which relates to service for, or other relationship with, the employer during such quarter and which would be relevant to a determination of the benefit entitlements of—

(i) Any of the employer's employees who has met the plan's requirements for eligibility to participate in the plan, whether or not such employee performs service in a job classification covered under the plan during such quarter, and

(ii) Any of the employer's employees who performs service in a job classification covered under the plan during such quarter, whether or not such employee has met the plan's requirements for eligibility to participate during such quarter. The Service Reports shall be furnished in accordance with any rules prescribed under paragraph (b)(5) of this section and shall be prepared on any forms and worksheets prescribed thereunder.

(3) *Definition of "sponsoring employer".* For purposes of this paragraph, an employer shall be deemed to be a "sponsoring employer" of a plan during any quarter of the plan year if during such quarter any employee of the employer performed service with the employer which was eligible to be credited towards the employee's benefit entitlements under the plan.

(4) *Duty of plan administrator to seek information.* If a sponsoring employer of a multiple employer plan fails to include information required under paragraph (b)(2) of this section in a Service Report, or if such an employer fails to furnish Service Reports to the plan administrator, or if the plan administrator of a multiple employer plan has reason to believe that the information furnished by a sponsoring employer is inaccurate, the plan administrator shall make reasonable efforts to obtain complete and accurate information.

(5) *Reasonable rules prescribed by plan administrator.* The plan administrator of a multiple employer plan

may prescribe reasonable rules in writing concerning the format of reports, manner of reporting, and reportable information, and may prescribe forms or worksheets to be used by employers for purposes of reporting under this paragraph (b).

§ 2530.209-4 Sufficiency of records.

(a) *Single-employer plans.* In the case of a plan that is not a multiple employer plan (as defined in § 2520.209-8), records required to be maintained under § 2530.209-2 will be deemed sufficient if (i) with respect to service from and after the later of the date the employer adopts the plan or [effective date of regulation], they contain every fact with respect to service with that employer which is relevant for a determination of each employee's benefit entitlements under the provisions of the plan, and (ii) with respect to service before [effective date of regulation], if any, they include all records maintained by the employer on and after February 9, 1979, for the purpose of determining employees' benefit entitlements under the provisions of the plan.

(b) *Multiple employer plans.* In the case of a multiple employer plan (as defined in § 2520.209-9), records required to be maintained under § 2530.209-2 will be deemed to be sufficient if (i) they accurately reflect all the information contained in the Service Reports furnished to the plan administrator by participating employers under § 2530.209-2(b) and if the plan administrator has made reasonable attempts to obtain accurate and complete information under the circumstances described in § 2530.209-3(b)(4), and (ii) with respect to service before [effective date of regulation], if any, they include all records maintained by the plan administrator on and after [date of publication of proposed regulation in FEDERAL REGISTER] for the purpose of determining employees' benefit entitlements under the provisions of the plan.

(c) *Loss or destruction of records.* Notwithstanding the preceding paragraphs, records shall not be deemed to be insufficient solely because they have been lost or destroyed due to circumstances beyond the control of the person responsible for their maintenance under § 2530.209-2.

§ 2530.209-5 Period for which records must be retained.

The records which are required to be maintained under § 2530.209-1 shall be retained as long as any possibility exists that they might be relevant to a determination of the benefit entitlements of a participant or the participant's beneficiary. When it is no longer possible that records might be relevant to a determination of benefit entitlements, the records may be disposed of, unless they are required to be maintained for a longer period under other laws.

§ 2530.209-6 Preservation of records by employer and plan administrator.

(a) *General.* The records which are required to be maintained under § 2530.209-1 shall be maintained in reasonable order in a safe and accessible place at the main offices of the plan administrator or the employer, as the case may be or at recordkeeping offices established by the employer or the plan and customarily used for the maintenance of records.

(b) *Preservation of records on microfilm and electronic data processing.* Preservation of records on microfilm for the periods required by this part will satisfy the requirements of this section regarding the retention of records provided that adequate projection or other viewing equipment is available for inspecting the microfilm and that the microfilm records are clear reproductions of the original records. Nothing in this section precludes the use of punch cards, magnetic tapes, etc., for processing information, provided that, where information from documents is converted to punch cards, magnetic tape or other electronic information storage material, the original documents or microfilm reproductions thereof, are retained for the periods required by this sections.

§ 2530.209-7 Inspection.

The records required to be maintained under § 2530.209-1 with respect to any participant or beneficiary shall be available at any time during normal business hours for inspection and copying by such participant or beneficiary and by his or her representatives, except that, if the records are maintained at a central recordkeeping office as described in section § 2530.209-6(a), the records shall be made available within 72 hours after a request.

§ 2530.209-8 Transfer of records.

In the event that an employer or plan administrator ceases to be responsible under § 2530.209-3 for maintaining records, the employer or plan administrator shall transfer the records to an appropriate successor employer or plan administrator who becomes responsible for their maintenance, to the extent that such records continue to be relevant to the determination of benefit entitlements. The employer or plan administrator transferring such records is not required to retain copies of the records transferred. Nothing in this section, however, shall relieve an employer or plan administrator from any responsibility or liability for violations of the requirements of §§ 2520.209-1 through 2530.209-5 which occur during the time such employer or plan administrator has control of and responsibility for maintaining, retaining or transferring the records as required by such section.

§ 2530.209-9 Definition of "Multiple Employer Plan".

For purposes of §§ 2530.209-1 through 2530.209-7, the term "multiple employer plan" shall mean a plan adopted by more than one employer.

Signed at Washington, D.C., this 2nd day of February 1979.

IAN D. LANOFF,
Administrator, Pension and Welfare Benefit Programs, Labor-Management Services Administration, U.S. Department of Labor.

[FR Doc. 79-4266 Filed 2-5-79; 10:26 am]

[4310-31-M]

DEPARTMENT OF THE INTERIOR

Geological Survey

[30 CFR Part 251]

GEOLOGICAL AND GEOPHYSICAL (G & G) EXPLORATIONS OF THE OUTER CONTINENTAL SHELF

Data Acquired Under Exploration Permit

AGENCY: Geological Survey, Interior.

ACTION: Proposed Rule.

SUMMARY: This proposed rule amends the Outer Continental Shelf (OCS) geological and geophysical exploration regulations, contained in 30 CFR Part 251, in response to a policy decision by the Secretary of the Department of the Interior to encourage companies to engage in pre-sale on-structure, as well as off-structure, drilling on OCS lands. The decision to allow on-structure drilling was made in an effort to provide important information about the hydrocarbon potential of an area which cannot be obtained by drilling only off-structure. Providing the flexibility for either on-structure or off-structure pre-sale testing will result in a better estimate of the resource potential of a region than could have been developed with off-structure drilling alone.

DATE: Interested persons may submit written comments on the proposed rule on or before April 10, 1979.

ADDRESS: Comments should be addressed to Director, U.S. Geological Survey, U.S. Department of the Interior, Reston, Virginia 22092. Comments will be available for public review at the above address from 7:45 a.m. to 4:15 p.m. on regular working days.

FOR FURTHER INFORMATION CONTACT:

Bruce G. Weetman, Senior Staff Advisor, Branch of Marine Evaluation, Conservation Division, MS 640, U.S. Geological Survey, Reston, Virginia 22092, (703) 860-7564.

SUPPLEMENTARY INFORMATION:

AUTHOR

The primary author of the revision is Bruce G. Weetman.

BACKGROUND

The Department has redefined deep stratigraphic tests so that the definition includes pre-lease, on-structure drilling. The Department will make every effort to take all drilling results into account in its final determination of sale formats but will proceed with sales as listed on the currently approved OCS Leasing Schedule. In order for the data to be fully utilized in the lease sale planning process, the well should be completed and the test data should be submitted to the Director no later than 3 months prior to the month in which the Proposed Notice of Sale appears on the Secretary's currently approved OCS Leasing Schedule, from which an OCS oil and gas lease may be issued within 50 miles of the test site. If the test is in an area not included in the current planning schedule, the usual submittal procedures should apply.

The following modifications are proposed in the existing regulations.

Section 251.3(l) redefines deep stratigraphic test to allow drilling of test wells on the Outer Continental Shelf (OCS) directly on geologic structures that could contain oil or natural gas. This change is part of an effort to further expand information on the petroleum potential of unleased lands on the OCS.

Section 251.5(a) has been expanded to clarify the Department's position that the issuance of permits is discretionary, to require that the Director state reasons for rejection of a permit application, and to allow the Director to advise the applicant of changes in the application which would render the application acceptable.

Section 251.7 corrections of the addresses of the filing locations have been made.

Section 251.8(c) has been expanded to include "possible discoveries" in the list of items to be reported to the Director immediately upon discovery.

Section 251.9(b)(vi) has been added to require that an Environmental Report be submitted to the Director with the drilling plan. This report shall enable identification and evaluation of the significant environmental consequences of the proposed activities as well as all information available to the permittee at the time of application. The report shall include a description of the proposed action, description of the existing environment, impact evaluation and mitigating measures, alternatives to proposed action, and unavoidable adverse environmental effects of the proposed action.

Section 251.9(c) is expanded to allow a penalty of up to 200 percent of the cost to each original participant after the Supervisor issues a public notice that significant shows or a possible discovery have been encountered in the test. Under present regulations, the permittee may charge a penalty up to 100 percent for late entry. It appears appropriate to allow the penalty to be higher than 100 percent for firms joining the consortium after the announcement of a hydrocarbon show or discovery. An insufficient penalty for post-discovery entrance would encourage firms to wait until wells are completed, joining only those consortia that have shows or discoveries and thus have more valuable information. This could reduce the number of firms willing to incur the risks and costs of being original members and thereby reduce the number of wells drilled. Allowing the original consortium to charge a higher penalty for late participation after a show or discovery is announced would tend to reduce the benefits of late entry and increase the benefits of original membership.

Section 251.9(d) has been modified to bring it into conformance with the existing cultural resource lease stipulation.

Section 251.9(f) has been added to specify that deep stratigraphic tests are to be completed no later than 3 months prior to the month in which the Proposed Notice of Sale appears on the Secretary's currently approved OCS Leasing Schedule. This requirement is necessary to provide sufficient time for Government utilization of the data without causing delays in scheduled lease sales.

This 3-month period allows for interpretation and evaluation of the data for use in the Secretary's decision on the configuration of the proposed sale which is published in the FEDERAL REGISTER and sent to the Governors of affected States for a 60-day comment period. The Proposed Notice of Sale is the first indication to the public and to bidders concerning the specific tracts, bidding systems, lease terms, and stipulations proposed for a sale. The Secretary's tentative decision on the configuration of a proposed sale is made approximately 90 days before the final decision on the sale.

The availability of the data 3 months before the Proposed Notice of Sale will assure that it will be available for final decisions on the configuration of the sale and for evaluation of tracts for purposes of deciding whether to accept or reject bids received. It will also be available for any review of a lease sale conducted by the Attorney General under Sec. 8(c) of the OCS Lands Act as amended.

The proposed regulation provides for extensions of exploration permits beyond the established deadline when such an extension is determined by the Director to be in the national interest. This will avoid the necessity of shutting down drilling operations which have been unavoidably delayed by adverse operating or other conditions. It would also allow shorter leadtimes to prepare for sales if it is determined to be in the national interest for near-term sales or sales in areas with short drilling seasons.

Section 251.9(g) has been added to prescribe policy on disposition of a deep stratigraphic test whether on- or off-structure. To assure maximum protection of the marine environment, it is proposed that all deep stratigraphic tests be considered expendable and be permanently plugged and abandoned when all data and information desired have been obtained. This provides not only for administrative convenience but also offers a degree of protection to the environment in the event a tract containing an abandoned test is not leased. All drilling and abandonment will be conducted in conformance with existing OCS Orders and Regulations.

Section 251.11(b)(4) has been expanded to include "possible discoveries" in the final report to be submitted to the Director.

Section 251.12(b)(2) has been rewritten to clarify the deadlines for data submission after its inspection and selection by the Director.

Section 251.12(b)(4) has been expanded to clarify the Director's right to inspect the data and information listed in this section as well as to select the data or information.

Section 251.13(b) and (c) have been rewritten for clarity.

Section 251.14(b)(1) has been expanded to clarify what will be released to the public by the Director in the event a significant show or possible discovery is encountered in a deep stratigraphic test. When the Director determines that a significant show or possible hydrocarbon discovery has been encountered in a deep stratigraphic test, the Director shall issue a public notice announcing that a significant show or possible hydrocarbon discovery has been encountered. In addition, other nonproprietary data and information as appropriate to the specific situation will be released at this time. Privileged or proprietary data and information, release of which would compromise the competitive position of any party participating in the test, will not be included in the public notice. The public will have access to all data and information from the test, including those which were formerly proprietary, 60 days after the issuance of the first OCS oil and gas lease within 50 geographic miles of the test site, or 5 years, whichever is sooner. Planners, therefore, will have ample time to use the data and information in projecting onshore impacts of future development.

Section 251.14(b)(3) has been changed to clarify the Department's position on disclosure of data after the issuance of an OCS oil and gas lease within 50 miles of the test site. In the event a test is drilled within 50 miles of an existing lease, the disclosure provision is not invoked until 60 days from the issuance of the next OCS oil and gas lease within 50 miles or 5 years after completion of the test, whichever is sooner.

Section 251.14(c)(3) has been added to clarify the position that all G & G data and information submitted with an application for a deep stratigraphic test, except for Common Depth Point (CDP) seismic data, will be made publicly available at the same time as the data obtained from the test. The CDP seismic data are exempt from disclosure because they may reveal structural information on unleased tracts.

Section 251.14(d) has been added to allow the Director to disclose data or information to independent contractors under promise of confidentiality for analysis or processing on the Government's behalf.

It should be noted that the proposed changes incorporated into these regulations that relate to deep stratigraphic drilling are not intended to cause delays in the existing program. Accordingly, any acceptable application received prior to promulgating final modifications of these regulations will be processed according to existing regulations.

ENVIRONMENTAL IMPACT AND REGULATORY ANALYSIS STATEMENTS

The Department of the Interior has determined that the revision of the regulations in 30 CFR 251, as proposed in this notice, will not have a significant impact on the quality of the human environment and, therefore, will not require preparation of any Environmental Impact Statement. The Department of the Interior has determined that this document is not a significant rule and does not require a regulatory analysis under Executive Order 12044 and 43 CFR Part 14.

Dated: February 2, 1979.

JOAN M. DAVENPORT,
Assistant Secretary of the Interior.

Part 251 of Title 30 of the Code of Federal Regulations is amended to read as follows:

Sec.

251.1 Purpose.
251.2 Applicability.
251.3 Definitions.
251.4 Functions of Director.
251.5 Requirement of notices and permits.
251.6 Forms for notices and permit applications.
251.7 Filing locations for notices and permit applications.
251.8 General conditions of notices and permits.
251.9 Test drilling under notices and permits.
251.10 Observation of exploration conducted under permits.
251.11 Report of operations conducted under notices and permits.
251.12 Inspection, selection, and submission of data and information.
251.13 Reimbursement to permittees.
251.14 Disclosure of data and information submitted under permits.
251.15 Termination, suspension, and revocation of authority to operate under notices and permits.
251.16 Penalties.
251.17 Appeals.

AUTHORITY: Secs. 5(a), 11, 26, Outer Continental Shelf Lands Act, as amended (43 U.S.C. secs. 1334(a), 1340, 1352 (1978)).

§ 251.1 Purpose.

The purpose of the regulations in this part is to prescribe policies, procedures, and requirements for conducting geological and geophysical exploration for mineral resources and scientific research on the Outer Continental Shelf without a lease.

§ 251.2 Applicability.

(a) *Permits and notices.* The regulations of this part are applicable to permits issued and notices filed after the effective date of this part. The regulations of this part are also applicable to any "Permit and Agreement for Outer Continental Shelf Geophysical Exploration" which, prior to the effective date of this part, is issued pursuant to the notice on Geological and Geophysical Exploration by the Acting Secretary of the Interior, dated August 27, 1975, and published in the FEDERAL REGISTER on September 3, 1975 (40 FR 40563). If the regulations of this part conflict with the terms of Sections 4, 5, or 8 of a "Permit and Agreement for Outer Continental Shelf Geophysical Exploration" which, prior to the effective date of this part, was issued pursuant to that notice in the FEDERAL REGISTER on September 3, 1975, the terms of that section in the Permit and Agreement shall control.

(b) *Leases.* The regulations in this part shall not apply to geological and geophysical exploration conducted on a lease in the Outer Continental Shelf of the United States by or on behalf of the lessee. Those explorations shall be governed by the regulations in Part 250 of this title.

§ 251.3 Definitions.

When used in this part, the following definitions shall apply:

(a) *Outer Continental Shelf.* All submerged lands which lie seaward and outside the area of lands beneath navigable waters as defined in Section 2 of the Submerged Lands Act, 67 Stat. 29 (43 U.S.C. sec. 1301), and of which the subsoil and seabed appertain to the United States and are subject to its jurisdiction and control.

(b) *Act.* The Outer Continental Shelf Lands Act, 67 Stat. 462 (43 U.S.C. secs. 1331-1343), as amended, September 18, 1978.

(c) *OCS Order.* A formal numbered order issued by the Supervisor with the prior approval of the Chief, Conservation Division, Geological Survey, that implements the regulations contained in this part or Part 250 of this title and applies to operations in an area of the Outer Continental Shelf.

(d) *Director.* The Director of the Geological Survey, United States Department of the Interior, or a Designee of the Director.

(e) *Person.* A citizen or national of the United States, an alien lawfully admitted for permanent residence in the United States as defined in 8 U.S.C. sec. 1101(a)(20), a private, public, or municipal corporation organized under the laws of the United States or of any State or territory thereof, and associations of such citizens, nationals, resident aliens, or private, public municipal corporations, States, or political subdivisions of States.

(f) *Third party.* Any person other than a representative of the United States or the permittee.

(g) *Notice.* The statement of intent to conduct geological and geophysical exploration for scientific research which does not include the use of solid or liquid explosives or a deep stratigraphic test.

(h) *Permit.* The contract or agreement approved for a specified period of not more than 1 year under which a person acquires the right to conduct (1) geological exploration for mineral resources, (2) geophysical exploration for mineral resources, or (3) geological and geophysical exploration for scientific research which includes the use of solid or liquid explosives or a deep stratigraphic test.

(i) *Geological exploration for mineral resources.* Any operation conducted on the Outer Continental Shelf which utilizes geological and geochemical techniques, including, but not limited to, core and test drilling, well logging techniques, and various bottom sampling methods to produce data and information on mineral resources, including data and information in support of possible exploration and development activity or for other commercial purposes. The term does not include exploration for scientific research.

(j) *Geophysical exploration for mineral resources.* Any operation conducted on the Outer Continental Shelf which utilizes geophysical techniques, including, but not limited to, gravity, magnetic and various seismic methods, to produce data and information on mineral resources, including data and information in support of possible exploration and development activity. The term does not include exploration for scientific research.

(k) *Geological and geophysical exploration for scientific research.* Any investigation conducted on the Outer Continental Shelf for scientific research purposes involving the gathering and analysis of geological or geophysical data and information which are made available to the public for inspection and reproduction at the earliest practicable time.

(l) *Deep stratigraphic test.* Drilling which involves the penetration into the sea bottom of more than 50 feet (15.2 meters) of consolidated rock or a total of more than 300 feet (91.4 meters).

(m) *Shallow test drilling.* Drilling into the sea bottom to depths less than those specified for a deep stratigraphic test.

(n) *Data.* Facts and statistics or samples which have not been analyzed or processed.

(o) *Analyzed geological information.* Data collected under a permit which have been analyzed. Analysis may include, but is not limited to, identification of lithologic and fossil content, core analyses, laboratory analyses of physical and chemical properties, logs or charts of electrical, radioactive, sonic, and other well logs, and descriptions of hydrocarbon shows or hazardous conditions.

(p) *Processed geophysical information.* Data collected under a permit which have been processed. Processing involves changing the form of data so as to facilitate interpretation. Processing operations may include, but are not limited to, applying corrections for known perturbing causes, rearranging or filtering data, and combining or transforming data elements.

(q) *Interpreted geological information.* Knowledge, often in the form of maps, developed by determining the geological significance of data and analyzed geological information.

(r) *Interpreted geophysical information.* Knowledge, often in the form of maps, developed by determining the geological significance of geophysical data and processed geophysical information.

(s) *Information.* This term, as used without a qualifying adjective, includes analyzed geological information, processed geophysical information, interpreted geological information, and interpreted geophysical information.

§ 251.4 Functions of Director.

The Director shall regulate all operations and other activities under this Part and perform all duties prescribed by this part. In order to do so effectively, the Director is authorized to issue OCS Orders and other written and oral orders and to take all other actions necessary to carry out the provisions of this part and to prevent damage to, or waste of, any natural resource or injury to life and property from any activity hereunder. The Director shall confirm oral orders in writing as soon as possible.

§ 251.5 Requirement of notices and permits.

(a) *Geological or geophysical exploration for mineral resources.* A person may not conduct geological or geophysical exploration for mineral resources without a permit. Separate permits will be issued for geological exploration for mineral resources and for geophysical exploration for mineral resources. Permit issuance is at the discretion of the Director. If the Director rejects a permit application, the statement of rejection shall state the reasons for the rejection. The statement may advise the applicant of changes in the application or other actions which may render the application, if filed again, acceptable to the Director.

(b) *Geological and geophysical exploration for scientific research.* (1) A person may not conduct geological and geophysical exploration for scientific research without a permit if the exploration includes the use of solid or liquid explosives or a deep stratigraphic test. Separate permits will be issued for geological exploration for scientific research and for geophysical exploration for scientific research.

(2) A person may conduct geological and geophysical exploration for scientific research without a permit if the exploration does not include the use of solid or liquid explosives or a deep stratigraphic test. However, the person must file with the Director a notice of intent to conduct exploration which does not involve such explosives or a deep stratigraphic test at least 30 days prior to commencing the exploration. Shallow test drilling may not be conducted if within 21 days of the filing of the notice the Director rejects the notice by sendng a statement of rejection by certified mail to the person who filed the notice. A statement of rejection may suggest changes in the notice which, if filed again, may render the notice acceptable to the Director.

§ 251.6 Forms for notices and permit applications.

(a) *Notices.* A notice shall not be on a standardized form, but shall be signed and shall state:

(1) The name(s) of the person(s) conducting or participating in the proposed exploration.

(2) The type of exploration and manner in which it will be conducted.

(3) The location, designated on a map, plat, or chart where the exploration will be conducted.

(4) The dates, which shall designate a period of not more than 1 year, on which the exploration will be commenced and completed.

(5) The proposed time and manner in which the data and information resulting from the exploration will be made available to the public for inspection and reproduction, such time being the earliest practicable time.

(6) An agreement that the data and information resulting from the exploration will not be sold or withheld for exclusive use.

(7) An agreement to comply with the Act, the regulations in this part, applicable OCS orders, other written or oral orders of the Director, and other applicable statutes and regulations whether such statutes, regulations, or orders are enacted, promulgated, issued, or amended before or after the notice is filed.

(8) The name, registry number, registered owner, and port of registry of vessels used in the operation.

(b) *Permit applications.* An application for a permit shall be on a form approved by the Director. Each application shall include:

(1) The name(s) of the person(s) conducting or participating in the proposed exploration.

(2) The type of exploration and manner in which it will be conducted.

(3) The location on the Outer Continental Shelf where the exploration will be conducted.

(4) The purpose of conducting the exploration.

(5) The dates on which the exploration will be commenced and completed.

(6) Such other descriptions of the proposed exploration as the Supervisor may request of the applicant.

§ 251.7 Filing locations for notices and permit applications.

(a) *Geological or geophysical exploration for mineral resources.* (1) Applications for permits to conduct geological or geophysical exploration for oil, gas, and sulphur shall be filed in duplicate at the following Geological Survey offices:

(i) For the Outer Continental Shelf off the Atlantic Coast—the Area Oil and Gas Suprvisor, Atlantic Area, 1725 K Street NW., Suite 204, Washington, D.C. 20006.

(ii) For the Outer Continental Shelf in the Gulf of Mexico—the Area Oil and Gas Supervisor, Gulf of Mexico Area, P.O. Box 7944, Metairie, Louisiana 70010.

(iii) For the Outer Continental Shelf off the coast of the States of California, Oregon, and Washington—the Area Oil and Gas Supervisor, Pacific Area, Room 7744, Federal Building, 300 N. Los Angeles Street, Los Angeles, California 90012.

(iv) For the Outer Continental Shelf off the State of Alaska—the Area Oil and Gas Supervisor, Alaska Area, P.O. Box 259, Anchorage, Alaska 99510.

(2) Applications for permits to conduct geological or geophysical exploration for minerals other than oil, gas, and sulphur shall be filed in duplicate at the following Geological Survey offices:

(i) For the Outer Continental Shelf off the Atlantic Coast and in the Gulf of Mexico—the Area Mining Supervisor Eastern Area, Suite 204, 1725 K Street NW., Washington, D.C. 20006.

(ii) For the Outer Continental Shelf off the States of Alaska, California, Oregon, and Washington—the Area Mining Supervisor, Alaska-Pacific Area, 345 Middlefield Road, Menlo Park, California 94025.

(b) *Geological and geophysical exploration for scientific research.* Notices and applications for permits to conduct geological or geophysical exploration for scientific research shall be filed in duplicate with the Area Oil and Gas Supervisor as indicated in paragraph (a)(1) of this section.

§ 251.8 General conditions of notices and permits.

(a) *Statutes, regulations, and orders.* Exploration authorized under this part shall be conducted in accordance with the Act, the regulations in this part, applicable OCS orders, other written or oral orders of the Director, and other applicable statutes and regulations whether such statutes, regulations, and orders are enacted, promulgated, issued, or amended before or after the notice is filled or the permit is issued.

(b) *General restrictions on operations.* Exploration authorized under this part shall be conducted so that operations do not:

(1) Interfere with or endanger operations under any lease maintained or granted pursuant to the Act.

(2) Cause undue harm to aquatic life.

(3) Cause pollution.

(4) Create hazardous or unsafe conditions.

(5) Unreasonably interfere with or harm other uses of the area.

(6) Disturb cultural resources, including sites, structures, or objects of historical or archaeological significance.

(c) *Report of hydrocarbon shows, hydrocarbon discoveries, or adverse effects.* Any person conducting exploration under this part shall immediately report to the Director any hydrocarbon shows, possible hydrocarbon discoveries, or any adverse effects of the exploration on the environment, aquatic life, cultural resources, or uses of the area in which the exploration is conducted.

(d) *No right to a lease.* Authorizations granted under this part to conduct exploration shall not confer a right to a lease under the Act.

§ 251.9 Test drilling under notices and permits.

(a) *Shallow test drilling.* (1) Permits authorizing geological exploration for mineral resources by means of shallow test drilling may be issued by the Director. The Director will also review notices under which shallow test drilling will be conducted.

(2) As a condition of a permit or after receipt of a notice, the Director may require the gathering and submission of, prior to the commencement of operations, high resolution geophysical data, processed geophysical information, and interpreted geophysical information from, but not limited to, bathymetric, side-scan sonar, and magnetometer systems, so as to determine shallow structural detail across and in the vicinity of the proposed test.

(b) *Deep stratigraphic tests.* Permits authorizing geological exploration for mineral resources, or scientific research by means of deep stratigraphic tests may be issued by the Director.

(1) The holder of a permit that authorizes deep stratigraphic tests may not commence any drilling operations unless he has submitted a drilling plan and the Director has approved the plan. Each drilling plan shall include:

(i) Commencement and completion dates proposed for drilling the test.

(ii) A description of the drilling rig proposed for use showing the design and major features thereof, including features intended to prevent or control pollution.

(iii) The location of each deep stratigraphic test to be conducted, including surface and projected bottomhole location for directionally drilled tests.

(iv) An oil spill contingency plan and a description of all equipment and materials available to the permittee for use in containment and recovery of an oil spill, with a description of the capabilities of such equipment under different sea and weather conditions.

(v) High resolution geophysical data, processed geophysical information, and interpreted geophysical information from, but not limited to, bathymetric, side-scan sonar, and magnetometer systems collected across any proposed drilling location so as to permit determination of shallow structural detail in the vicinity of the proposed test, and for stratigraphic tests proposed to depths greater than 1,000 feet (304.8 meters) below the mudline, common depth point seismic data from the area of the proposed test location, and processed geophysical information and interpreted geophysical information therefrom.

(vi) An Environmental Report. At the same time the permittee submits a proposed plan to the Director, he shall submit an Environmental Report. The report shall address all activities included in the proposed plan and shall identify all environmental and safety features required by law, together with such additional measures as the permittee proposes to employ. The report shall be as detailed as necessary to enable identification and evaluation of the significant environmental consequences of the proposed activities and shall include all information available to the permittee at the time of submission. The Environmental Report shall include data and information obtained or developed by the permittee, together with other pertinent data and information available to the permittee from other sources. The permittee shall cross-reference information in the most recent applicable environmental documents and shall summarize pertinent information contained in other published, accredited reports. The report shall clearly identify the source of all data and information contained therein. The Environmental Report may be tiered to other environmental documents or Environmental Reports for the same or adjacent areas. Specific guidelines for implementing this section will be issued by the Director. The Environmental Report shall contain the following sections:

(A) Description of the Proposed Action. This section shall briefly summarize the nature and scope of the proposed action contained in the proposed plan. This section shall include, but not be limited to, the following: Company and operator name, objective of the proposed action, a description and location of vessels or platforms, and time frames for completion of various functions. In describing the proposed action, the report will also include a discussion of equipment, a discussion of oil spill contingency plans, statements of certification of consistency with appropriate coastal zone management programs when applicable, a comprehensive list of new or unusual technologies to be used, a detailed description of these technologies, the location of travel routes for supplies and personnel, the kinds and approximate quantities of energy to be used, and the environmental monitoring systems proposed for use by the permittee. The proposed action section will also include suitable maps and diagrams showing details of the proposed project layout.

(B) Description of existing environment. This section is to contain a narrative description of the existing environment, and emphasis shall be placed on those environmental values that may be affected by the proposed action. This section shall include, but not be limited to, discussion of the following: Geology, physical oceanography, other uses of the area, flora and fauna, cultural resources, socio-economics, and existing environmental monitoring systems, other unusual or unique characteristics which may be affected by the drilling.

(C) Impact evaluation and mitigating measures. This section shall contain a narrative description or tabulation of the probable impacts of the proposed action on the environment and existing mitigating measures, as well as measures which have been proposed in the plan, to mitigate the impacts.

(D) Alternatives to the proposed action. This section shall discuss all relevant alternatives to the proposed action or major segments of the proposed action which would result in less risk of adverse environmental impacts.

(E) Unavoidable adverse environmental effects of the proposed action. Any unavoidable or irreversible adverse environmental effects that could occur as a result of the proposed action shall be summarized in this section.

The permittee shall, when required, submit an appropriate number of copies of each Environmental Report to permit the Director to transmit a copy to the Governor and Coastal Zone Management Agency of each affected State and to the United States Office of Coastal Zone Management. The Director shall transmit such copies at the same time he transmits copies of the applicable plan. The Director shall also make copies of the Environmental Report available to the public, in accordance with the Freedom of Information Act.

(vii) Such other pertinent data and information as the Director may request.

(2) After approval of a drilling plan, any modifications must be approved by the Director. A modification including relocation of a drillsite or bottom-hole location exceeding 600 feet (182.8 meters) must be approved by the Director.

(3) A deep stratigraphic test authorized by a permit shall be conducted in a manner which prevents blowouts, prevents release of fluids from strata into the sea, and prevents communication between fluid-bearing strata of oil, gas, or water. The permittee shall utilize appropriate protective measures and devices specified by the Director.

(c) *Group participation.* In order to minimize duplicative geological exploration involving penetration of the seabed of the Outer Continental Shelf, a permittee proposing to conduct a deep stratigraphic test shall afford all interested persons an opportunity to participate in the test on a cost-sharing basis with a penalty for late participation of not more than 100 percent of the cost to each original participant. The penalty shall be assessed by the participants. When the Director releases a public notice that a significant show or possible hydrocarbon discovery has been encountered in a deep stratigraphic test, the penalty for subsequent late participation may be raised to not more than 200 percent of the cost to any original participant. A permittee proposing to conduct shallow test drilling shall, when ordered by the Director or when provided in the permit, afford all interested persons an opportunity to participate in the test on a cost-sharing basis with a penalty for late participation of not more than 50 percent of the cost to each original participant. To allow for group participation a permittee shall:

(1) Publish a summary statement of the proposed test in a manner approved by the Director.

(2) Allow at least 30 days from the date of the publication for other persons to consider participation in the program as described by the permit and join as original participants.

(3) Forward a copy of the published notice(s) to the Director.

(4) Compute the cost to an original participant by dividing the total cost of the program by the number of original participants.

(5) Furnish the Director with a complete list of all participants under the permit prior to commencing operations, or at the end of the advertising period if operations begin prior to its close, and submit, on a timely basis, a list of all late participants.

If the Director determines that a change made in the permit or drilling plan is significant, he shall require additional publications. Persons wishing to join as a result of such readvertisements within the time frame allowed will be considered to be original participants.

(d) *Cultural resources.* Any person who holds a permit authorizing a deep stratigraphic test shall, if requested by the Director, conduct studies sufficient to determine the possible existence of any cultural resources, including sites, structures, or objects of historical or archaelolgical significant that may be affected by such drilling, and shall report the findings of the studies to the Director. Any person who holds a permit authorizing shallow test drilling or who has filed a notice for shallow test drilling may be required to conduct such studies at the discretion of the Director. If any study indicates the possible presence of a cultural resource, a full explanation will be included in the report. The person shall take no action that may result in the disturbance of cultural resources without the prior approval of the Director, and if any cultural resource is discovered during a test, the person shall immediately report the finding to the Director and make every reasonable effort to preserve and protect the cultural resource from damage until the Director has given directions as to its preservation.

(e) *Orders and regulations.* All Outer Continental Shelf regulations relating to drilling operations in Part 250 of this title and all OCS Orders relating to the drilling and abandonment of wells apply, as appropriate, to drilling authorized under this Part. Departures from the requirements of OCS Orders shall be permitted as provided in § 250.12(b) of this title.

(f) *Completion times for deep stratigraphic tests.* All permits authorizing deep stratigraphic tests will contain a provision that all drilling and testing shall be completed, with results submitted to the Director, at least 3 months prior to the month in which the Proposed Notice of Sale is listed on the currently approved OCS Leasing Schedule which includes tracts within 50 geographic miles of the test site. If the test site is in an area not listed on the Schedule, submission will be in accordance with terms of the permit of by § 251.12 of this part. The Director may extend the expiration date of the permit if it is determined that such an extension is in the national interest.

(g) *Abandonment of test.* A deep stratigraphic test will be considered to be an expendable well. It will be permanently plugged and abandoned by the permittee according to the regulations in Part 250 of title and applicable regulations prior to moving the rig off location. The permittee will make every reasonable effort to ensure that the plug(s) permanently prevents the release of subsurface fluids into the sea and prevent(s) communication between oil, gas, or water-bearing strata. If the tract on which a deep stratigraphic test has been drilled is later leased for exploration and development, the lessee will not be held responsible for the test well, provided the lessee has not reentered the well.

(h) *Bonds.* Before a permit authorizing a deep stratigraphic test will be issued, the applicant shall furnish to the Bureau of Land Management a corporate surety bond of not less than $100,000 conditioned on compliance with the terms of the permit, unless the applicant maintains with or furnishes to the Bureau of Land Management a bond in the sum of $300,000 conditioned on compliance with the terms of the permit issued to him for the area of the Outer Continental Shelf where he proposes to conduct a deep stratigraphic test. The Director may require a bond for shallow test drilling. Any bond furnished or maintained by a person under this section shall be on a form approved by the Director, Bureau of Land Management.

§ 251.10 Observation of exploration conducted under permits.

(a) *Advisor.* A permittee shall, on request of the Director, furnish food, quarters, and transportation for an advisor who is approved by the Director, and the permittee will be reimbursed by the United States for actual costs. The advisor shall observe operations conducted pursuant to the permit and advise the Director on the conduct of the operations as well as on any adverse effects of the operations upon the environment, aquatic life, cultural resources, and other uses of the area. The fees charged by an advisor shall be paid by the United States.

(b) *Federal inspector.* A permittee shall, on request of the Director, furnish food, quarters, and transportation for a Federal representative to inspect operations, and the permittee will be reimbursed by the United States for actual costs.

§ 251.11 Report of operations conducted under notices and permits.

(a) *Weekly reports.* Each permittee shall submit to the Director weekly reports which include a daily log of operations.

(b) *Final reports.* Each permittee and each person operating under a notice shall submit a final report to the Director within 30 days after the completion of exploration under the permit or notice. The final report shall contain the following:

(1) A description of the work performed.

(2) Charts, maps, or plats depicting the areas in which the exploration was conducted and specifically identifying the lines over which geophysical traverses were run or the locations where geological exploration was conducted, including a reference sufficient to identify the data produced during each such operation.

(3) The dates on which the exploration was performed.

(4) A report of any hydrocarbon shows, possible discoveries, or any adverse effects of the exploration on the environment, aquatic life, cultural resources, or other uses of the area in which the exploration was conducted.

(5) Such other descriptions of the exploration as may be specified by the Director.

§ 251.12 Inspection, selection and submission of data and information.

(a) *Submission of geological data and analyzed geological information.* (1) Each holder of a permit for geological exploration shall notify the Director immediately, in writing, of the acquisition or analysis of any geological data collected under the permit. At any time within 1 year of receiving a notice of acquisition or analysis from a permittee, or within a longer period if specified in the permit, the Director may select all or part of the geological data and analyzed geological information. The permittee shall keep the geological data and analyzed geological information available for inspection and selection by the Director during such period, and the permittee shall submit geological data and analyzed geological information to the Director within 30 days after receiving a request for submission of them.

(2) Each submission of geological data and analyzed geological information shall, at the direction of the Director, contain all or part of the following:

(i) An accurate and complete record of all geological (including geochemical) data and information resulting from each operation.

(ii) Paleontological reports identifying microscopic fossils by depth (not resulting age interpretations based upon such identification) unless washed samples are maintained by the permittee for paleontological determination and are made available for inspection by the Geological Survey.

(iii) Copies of logs or charts of electrical, radioactive, sonic, and other well logs.

(iv) Analyses of core or bottom samples or a representative cut or split of the core or bottom sample.

(v) Detailed descriptions of any hydrocarbon shows or hazardous conditions encountered during operations, including near losses of well control, abnormal geopressures, and losses of circulation.

(vi) Such other geological data and analyzed geological information obtained under the permit as may be specified by the Director.

(3) A permittee shall not be required to submit interpreted geological information under this Part of Title 30 unless specifically required in this Part.

(b) *Inspection, selection, and submission of geophysical data and processed geophysical information.* (1) Each holder of a permit for geophysical exploration shall notify the Director immediately, in writing, of the acquisition, processing, or reprocessing of any geophysical data collected under the permit. At any time within 1 year after receiving a notice of acquisition, processing, or reprocessing from a permittee, or within a longer period if specified in the permit, the Director may select all or part of the geophysical data, processed geophysical information, and reprocessed geophysical information. The permittee shall keep the geophysical data, processed geophysical information, and reprocessed geophysical information available for inspection and selection by the Director during such period.

(2) The Director shall have the right to inspect the geophysical data, processed geophysical information, or reprocessed geophysical information prior to selection in writing. This inspection may be performed on the permittee's premises or, at the request of the Director, the permittee shall submit the geophysical data, processed geophysical information, or reprocessed geophysical information to the Director for inspection. Such delivery shall be within 30 days after the request for delivery is received. At any time prior to selection in writing, the Director shall have the right to return, without cost to the Government except for reproduction costs, any or all geophysical data, processed geophysical information, or reprocessed geophysical information following either inspection and detailed assessment of quality or establishment of price to the Government for processing or reprocessing. If the Director decides to keep any or all of the geophysical data, processed geophysical information, or reprocessed geophysical information, the Director shall select them in writing. If the inspection has been done on the permittee's premises, the permittee shall submit them within 30 days after receiving a request for submission of them. The Director shall have the right to arrange, by contract or otherwise, for the reproduction of geophysical data, processed geophysical information, and reprocessed geophysical information independently of the permittee

and without reimbursement of the permittee for reproduction costs.

(3) In the event a permittee transfers geophysical data or processed geophysical information to a third party, or a third party who has received geophysical data or processed geophysical information directly or indirectly from a permittee, transfers the geophysical data or processed geophysical information to another third party, the transferor shall notify the Director of such transmittal, and the transferor shall bind the third party, in writing, to the obligations of the permittee as specified in this section.

(4) The right to inspection and each submission shall include, at the direction of the Director, all or any part of the following:

(i) An accurate and complete record of each geophysical survey conducted under the permit, including final location maps of all survey stations.

(ii) All common depth point and high resolution seismic data developed under a permit in a format and of a quality suitable for processing; processed geophysical information derived therefrom with extraneous signals and interference removed, in a format and of a quality suitable for interpretive evaluation, reflecting state-of-the-art processing techniques; and other geophysical data and processed geophysical information obtained from, but not limited to, shallow and deep subbottom profiles, bathymetry, side-scan sonar, and magnetometer systems, bottom profiles, gravity and magnetic surveys, and special studies such as refraction and velocity surveys.

(5) A permittee shall not be required to submit interpreted geophysical information under this part of Title 30 unless specifically required by this part.

§ 251.13 Reimbursement to permittees.

(a) *Reimbursement for reproduction costs.* After the delivery or submission of geophysical data, processed geophysical information, and reprocessed geophysical information in accordance with § 251.12(b)(2), the permittee or third party shall, upon a request for reimbursement and upon a determination by the Director that the request is proper, be reimbursed for the cost of reproducing the geophysical data, processed geophysical information, and reprocessed geophysical information at the permittee's lowest rate or at the lowest commercial rate established in the area, whichever is less.

(b) *Reimbursement for processing and reprocessing costs.* After the Director selects processed and reprocessed geophysical information by written notice to the permittee or third party in accordance with § 251.12(b)(2), the permittee or third party, upon request, shall be reimbursed only for the costs attributable to processing and reprocessing, as distinguished from the cost of data acquisition, as follows: (1) If the processing or reprocessing has been done by the permittee in the normal conduct of his business, the Director shall pay the costs at the lowest rate available to any purchaser for the processing or reprocessing of such data and information; (2) If the processing or reprocessing has been specifically requested by the Director and has not been prepared in the normal conduct of the permittee's business, the Director shall pay the costs of processing and reprocessing such data. If any fraudulent or collusive scheme is utilized by the permittee or by any person in conjunction with the permittee so as to affect the cost determinations under either paragraph (b) (1) or (2) of this section, the Director shall reimburse the permittee only for the actual processing or reprocessing costs which the Federal Government would have incurred had not the fraud or collusion affected the cost determination. Moreover, any person who engages in such fraudulent or collusive activity shall be subject to prosecution pursuant to section 24(c) of the Act.

(c) *Procedures for establishing amount of reimbursement.* Requests for reimbursement will contain a cost breakdown in sufficient detail to allow separation of processing and reprocessing from acquisition costs. Any reimbursement to a permittee or third party shall be conditioned upon a determination by the Director that the request for reimbursement as originally submitted or as revised is proper, and not the result of any fraud or collusion by the permittee or by any person in conjunction with the permittee.

§ 251.14 Disclosure of data and information submitted under permits.

(a) *General.* Except as specified in this section, the United States shall not make available to the public (1) trade secrets and commercial or financial information which are privileged or confidential and which are received from permittees, and (2) geological and geophysical information and data, including maps concerning wells, which are received from permittees.

(b) *Disclosure of geological data, analyzed geological information, and interpreted geological information.* The Director shall disclose geological data, analyzed geological information, and interpreted geological information submitted under a permit as follows:

(1) The Director shall immediately issue a public notice when any hydrocarbon shows, hydrocarbon discoveries, or environmental hazards on unleased lands are discovered during drilling operations if the shows, discoveries, or hazards are judged to be significant by the Director. In the case of hydrocarbon shows or possible hydrocarbon discoveries, the Director will announce that hydrocarbon shows have been encountered or that a possible hydrocarbon discovery has been made. Other data and information pertaining to the permit will be released according to the schedule provided in paragraphs (b) (2) or (3) of this section, as appropriate.

(2) The Director shall make available to the public all other geological data, analyzed geological information, and interpreted geological information, except geological data, analyzed geological information, and interpreted geological information obtained from deep stratigraphic tests, 10 years after the date of issuance of the permit.

(3) The Director shall make available to the public all geological and geophysical data and information, except common depth point geophysical data and information, obtained from deep stratigraphic tests 5 years after completion of the test well or 60 calendar days after the date of issuance of the first OCS oil and gas lease within 50 geographic miles (92.6 kilometers) of the test site after the completion of the test.

(c) *Disclosure of geophysical data, processed geophysical information, and interpreted geophysical information.* The Director shall disclose geophysical data, processed geophysical information, reprocessed geophysical information, and interpreted geophysical information submitted under a permit and retained by the Director as follows:

(1) The Director shall make available to the public geophysical data 10 years after the date of issuance of the permit.

(2) The Director shall make available to the public processed geophysical information, reprocessed geophysical information, and interpreted geophysical information 10 years after the date it has been submitted to the Director.

(3) The Director shall make available to the public processed geophysical information, reprocessed geophysical information, and interpreted geophysical information submitted with an application for a deep stratigraphic test, or required to be obtained in order to conduct a deep stratigraphic test, according to the disclosure provisions defined for a deep stratigraphic test in § 251.14(b)(3) above, with the exception of common depth point seismic data from the area of the proposed test location and processed geophysical information and interpreted geophysical information therefrom which will be released under the provisions of § 251.14(c)(2) above.

(d) *Disclosure to independent contractors.* The Government reserves the right to disclose any data or information acquired from a permittee to an independent contractor or agent for the purpose of processing, reprocessing, or interpretation. However, the contractor or agent must execute a written commitment not to disclose such data or information to any third party without the express written consent of the Director. The contractor or agent shall be liable for any unauthorized disclosure of data or information of third parties.

(e) *Disclosure to designated representative of a Governor.* The Director shall provide privileged or proprietary data or information to the designated representative of a Governor pursuant to the provisions of § 252.7 (a) and (b) of this title.

§ 251.15 Termination, suspension, and revocation of authority to operate under notices and permits.

(a) *Termination.* The Director or a person who has filed a notice or who holds a permit may terminate the authority to conduct exploration under a notice or permit, as the case may be, at any time without cause by sending a statement of termination by certified mail to the other party at least 30 days in advance of the date such termination is to be effective.

(b) *Suspension and revocation.* (1) The Director may, by sending a statement of suspension or revocation by certified mail, suspend or revoke the authority to conduct exploration under a permit or notice when in his judgment the exploration or proposed exploration threatens immediate, serious, or irreparable harm or damage to life, including aquatic life, to property, to cultural resources, to valuable mineral deposits, or to the environment. Such suspensions and revocations shall be effective immediately upon receipt of the statement.

(2) The Director may, by sending a statement of suspension or revocation by certified mail, suspend or revoke the authority to conduct exploration under a notice or permit for noncompliance with the Act, the regulations in this part, the terms and conditions of the permit, applicable OCS Orders, other written orders of the Director, including requests for any reports, and other applicable laws and regulations. A suspension shall be effective immediately upon receipt of the statement, and a revocation shall be effective without further notice on the 30th day after receipt of the statement, unless the breach or violation is corrected by that time. Upon receipt of a statement of revocation asserting a breach or violation, the authority to conduct exploration under the notice or permit shall be suspended immediately, and the suspension shall remain in effect until the breach or violation has been corrected or the revocation becomes final.

(c) *Continuing obligations.* Termination or revocation of the authority to conduct exploration under a notice or permit shall not relieve the person who filed the notice or who holds the permit of the obligation to abandon any drill sites in compliance with § 251.9(e), and to comply with all other obligations specified in this Part or in the permit or notice.

§ 251.16 Penalties.

All persons conducting geological or geophysical exploration for mineral resources and exploration for scientific research shall be subject to the penalty provisions of Section 24 of the Act, as amended (43 U.S.C. Sec. 1350), for violation of regulations for the prevention of waste, the conservation of natural resources, or the protection of correlative rights. This is in addition to any penalty which may be prescribed in the permit for noncompliance with its provisions or any action which may be brought by the United States to compel compliance with the provisions of the permit.

§ 251.17 Appeals.

Orders or decisions issued under the regulations in this part may be appealed as provided in Part 290 of this title.

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[4810-28-M]

DEPARTMENT OF THE TREASURY

[31 CFR Ch. I]

Office of Revenue Sharing

SEMIANNUAL AGENDA OF REGULATIONS

AGENCY: Office of Revenue Sharing, Department of Treasury.

ACTION: Semmiannual Agenda of Regulations.

SUMMARY: This is the semiannual agenda of the Office of Revenue Sharing regulations implementing the State and Local Fiscal Assistance Act of 1972, 31 U.S.C. 1221 *et seq.*, as amended by the State and Local Fiscal Assistance Amendments of 1976, Pub. L. 94-488. The agenda is published pursuant to Executive Order 12044.

EFFECTIVE DATE: February 9, 1979.

FOR FURTHER INFORMATION CONTACT:

Herman Schwartz, Chief Counsel, Office of Revenue Sharing, Washington, D.C. 20226, 202-634-5184.

SUPPLEMENTARY INFORMATION: Pursuant to Executive Order 12044 "On Improving Government Regulations", and Treasury Department Directive (TD-50 04.F) which implements that Executive Order, the Office of Revenue Sharing has prepared a semiannual agenda which sets forth the significant Revenue Sharing regulations under development and a list of significant existing regulations under review.

Among other amendments, Pub. L. 94-488 revised the nondiscrimination provisions of the State and Local Fiscal Assistance Act to include the prohibition against discrimination on the basis of handicap status, as provided in Section 504 of the Rehabilitation Act of 1973, as amended, and the prohibition against discrimination of the basis of age under the Age Discrimination Act of 1975. Also, the Office of Revenue Sharing is conducting a review of all of the regulations in 31 CFR Part 51, and amendments resulting from that review will be published over the next few months.

(This semiannual agenda of regulations is published under the authority of Executive Order 12044 and Treasury Department Directive 50 04.F. The authority of the Office of Revenue Sharing to publish regulations derives from the State and Local Fiscal Assistance Act 1972, as amended by Pub. L. 94-488, 31 U.S.C. 1221 *et seq.* and Treasury Department Order No. 224, dated January 26, 1973 (38 FR 3342) as amended by Treasury Department Order No. 242 (Revision) dated May 17, 1977.)

Bernadine Denning,
Director,
Office of Revenue Sharing.

February 5, 1979.

Roger C. Altman,
Assistant Secretary,
Domestic Finance, Department of the Treasury.

Semiannual Agenda of Regulations

A. SIGNIFICANT REGULATIONS UNDER DEVELOPMENT

1. Regulaitons to implement the prohibitions against discrimination under 31 U.S.C. 1242(a)(1) with respect to an otherwise qualified handicapped individual as provided in section 504 of the Rehabilitation Act of 1973.
2. Regulations to implement the prohibitions against discrimination under 31 U.S.C. 1242(a)(1) on the basis of age under the Age Discrimination of 1975.

B. SIGNIFICANT EXISTING REGULATIONS UNDER REVIEW

1. The Office of Revenue Sharing is reviewing all of the existing regulations published in 31 CFR Part 51 pursuant to the State and Local Fiscal Assistance Act, as amended, 31 U.S.C. 1221 *et seq.*

[FR Doc. 79-4598 Filed 2-8-79; 8:45 M]

[6560-01-M]

ENVIRONMENTAL PROTECTION AGENCY

[40 CFR Parts 51 and 52]

[FRL 1054-8]

STATE IMPLEMENTATION PLANS UNDER CLEAN AIR ACT

Guidance on Criteria for Approval of Plan Revisions for Nonattainment Areas

AGENCY: Environmental Protection Agency.

ACTION: Notice of availability of guidance material.

SUMMARY: EPA has collected for public use its guidance memoranda and other documents explaining how to satisfy the requirements for State Implementation Plan revisions for areas that do not meet National Ambient Air Quality Standards under the Clean Air Act. EPA will refer to this guidance material in determining whether State Plan submittals due January 1 of this year may be approved. A copy of this guidance material is available for public inspection at each EPA Regional Office and at EPA headquarters in Washington, D.C.

FOR FURTHER INFORMATION CONTACT THE APPROPRIATE EPA OFFICE:

Nancy Adams, Air Branch, EPA Region I, JFK Federal Building, Boston, Mass. 02203, (617) 223-6883 (Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, Vermont).

William Baker, Chief, Air Programs Branch, EPA Region II, 26 Federal Plaza, New York, N.Y. 10007, (212) 264-2517 (New York, New Jersey, Puerto Rico, Virgin Islands).

Patricia Sheridan, Air Programs Branch, EPA Region III, Curtis Building, Sixth and Walnut Streets, Philadelphia, Pa. 19106, (215) 597-8176 (Delaware, Maryland, Pennsylvania, Virginia, West Virginia, District of Columbia).

Walter Bishop, Air Programs Branch, EPA Region IV, 345 Courtland Street NE., Atlanta, Ga. 30308, (404) 881-3286 (Alabama, Georgia, Florida, Kentucky, Mississippi, North Carolina, Tennessee, South Carolina).

Deborah Costello, Docket Clerk, Air Programs Branch, EPA Region V, 230 South Dearborn Street, Chicago, Ill. 60604, (313) 353-2205 (Indiana, Illinois, Michigan, Minnesota, Ohio, Wisconsin).

Jerry Stubberfield, Chief, SIP Section, Air Programs Branch, EPA Region VI, 1201 Elm Street, Dallas, Tex. 75270, (214) 767-2742 (Arkansas, Louisiana, Oklahoma, New Mexico, Texas).

William A. Spratlin, Chief, Air Support Branch, EPA Region VII, 324 East 11th Street, Kansas City, Mo. 64106, (816) 374-3791 (Nebraska, Iowa, Kansas, Missouri).

Robert DeSpain, Chief, Air Branch, EPA Region VIII, 1860 Lincoln Street, Denver, Colo. 80295, (303) 837-3471 (Montana, Utah, North Dakota, South Dakota, Wyoming, Colorado).

Douglas Grano, Acting Chief, Regulatory Section, Air Programs Branch, EPA Region IX, 215 Fremont Street, San Francisco, Calif. 94105, (415) 556-2938 (California, Nevada, Arizona, Hawaii, American Samoa, Northern Mariana Islands).

Lauri M. Smith, Regional Docket Clerk, Air Programs Branch, EPA Region X, 1200 Sixth Avenue, Seattle, Wash. 98101, (206) 442-1226 (Alaska, Washington, Oregon, Idaho).

Central Docket Section, EPA Headquarters Room 2903, 401 M Street SW., Wash., D.C. 20460, (202) 755-0353.

SUPPLEMENTARY INFORMATION: Provisions of the Clean Air Act enacted in 1977 require states to revise their State Implementation Plans for all areas that do not attain National Ambient Air Quality Standards. States must submit the necessary Plan revisions to EPA by January 1, 1979. (42 U.S.C. 7502 and note thereunder.)

On February 24, 1978, the Administrator of EPA issued a memorandum summarizing the elements that these Plan submittals must contain in order to be approved. This memorandum was reproduced at 43 FR 21673, May 19, 1978. The Agency has also prepared guidance material on how these basic requirements may be satisfied, and clarifying the requirements where necessary. This guidance was supplied to the states, which have the primary responsibility under the Act for developing adequate plans. Now that the plan revisions are being completed and submitted, EPA will soon be publishing notices of proposed rulemaking inviting comment on whether the submittals should be approved. EPA is announcing the availability of the guidance material to assist the public in preparing its comments to EPA.

Additional items may be added to this guidance material from time to time without further notice.

Dated: January 26, 1979.

David G. Hawkins,
Assistant Administrator for Air, Noise and Radiation.

[FR Doc. 79-4224 Filed 2-8-79; 8:45 am]

[6560-01-M]

[40 CFR Part 65]

[FRL 1053-2]

STATE AND FEDERAL ADMINISTRATIVE ORDERS PERMITTING A DELAY IN COMPLIANCE WITH STATE IMPLEMENTATION PLAN REQUIREMENT

Proposed Delayed Compliance Order for Amoco Oil Co. Whiting, Ind.

AGENCY: U.S. Environmental Protection Agency.

ACTION: Proposed rule.

SUMMARY: U.S. Environmental Protection Agency (U.S. EPA) proposes to issue an Administrative Order to Amoco Oil Company. The Order requires the Company to bring the volatile organic material loading rack (the Source) into compliance with APC-15, Section 4, part of the federally approved Indiana State Implementation Plan (SIP). Because the Company is unable to comply with this regulation at this time, the proposed Order would establish an expeditious schedule requiring final compliance by July 1, 1979. Source compliance with the Order would preclude suits under the Federal enforcement and citizen suit provisions of the Clean Air Act (the Act) for violation of the SIP regulation covered by the Order. The purpose of this notice is to invite public comment and to offer an opportunity to request a public hearing on U.S. EPA's proposed issuance of the Order.

DATES: Written comments must be received on or before March 12, 1979 and requests for a public hearing must be received on or before February 24, 1979. All requests for a public hearing should be accompanied by a statement of why the hearing would be beneficial and a text or summary of any proposed testimony to be offered at the hearing. If there is significant public interest in a hearing, it will be held after twenty-one days prior notice of the date, time, and place of the hearing has been given in this publication.

ADDRESSES: Comments and requests for a public hearing should be submitted to Director, Enforcement Division, U.S. Environmental Protection Agency, Region V, 230 South Dearborn Street, Chicago, Illinois 60604. Material supporting the Order and public comments received in response to this notice may be inspected and copied (for appropriate charges) at this address during normal business hours.

FOR FURTHER INFORMATION CONTACT:

Mr. Roger M. Grimes, Attorney, Enforcement Division, U.S. Environmental Protection Agency, 230 South Dearborn Street, Chicago, Illinois 60604, at (312) 353-2086.

SUPPLEMENTARY INFORMATION: Amoco Oil Company owns the volatile organic material loading rack at Whiting, Indiana. The proposed Order addresses emissions from this loading rack which is subject to APC-15, Section 4, of the Indiana Implementation Plan. The regulation limits the emissions of volatile organic materials and is part of the federally approved Indiana State Implementation Plan. The Order requires final compliance with the regulation by July 1, 1979, and the source has consented to its terms.

The proposed Order satisfies the applicable requirements of Section 113(d) of the Act. If the Order is issued, source compliance with its terms would preclude further U.S. EPA enforcement action under Section 113 of the Act against the source for violations of the regulation covered by the Order during the period the Order is in effect. Enforcement against the source under the citizen suit provisions of the Act (Section 304) would be similarly precluded.

Comments received by the date specified above will be considered in determining whether U.S. EPA should issue the Order. Testimony given at any public hearing concerning the Order will also be considered. After the public comment period and any public hearing, the Administrator of U.S. EPA will publish in the FEDERAL REGISTER the Agency's final action on the Order in 40 CFR Part 65.

Dated: January 26, 1979.

JOHN MCGUIRE,
Regional Administrator,
Region V.

In consideration of the foregoing, it is proposed to amend 40 CFR Chapter I, as follows:

PART 65—DELAYED COMPLIANCE ORDERS

1. By amending the table in § 65.190 to reflect approval of the following order:

§ 65.190 Federal Delayed Compliance Orders issued under Section 113(d)(1), (3), and (4) of the Act.

U.S. ENVIRONMENTAL PROTECTION AGENCY; REGION V

In the Matter of: Amoco Oil Company, Whiting, Indiana. Proceeding pursuant to section 113(d) of the Clean Air Act, as amended (42 U.S.C. Section 7413(d)).

INTRODUCTION

This Order is issued this date pursuant to Section 113(d) of the Clean Air Act, as amended, 42 U.S.C. Section 7401 *et seq.* (hereafter the "Act") and contains a schedule for compliance, interim control requirements, and reporting requirements. Public notice, opportunity for a public hearing, and thirty (30) days notice to the State of Indiana have been provided pursuant to Section 113(d)(1) of the Act.

FINDINGS

1. On August 18, 1978, the United States Environmental Protection Agency (hereafter "U.S. EPA" or "Agency") issued a Notice of Violation (hereafter "NOV") to the Amoco Oil Company (hereafter "Amoco" or the "Company") pursuant to Section 113(a)(1) of the Act, 42 U.S.C. 7413(a)(1), for alleged violation of Indiana Air Pollution Control Regulation APC-15, Section 4.

2. APC-15, Section 4, creates certain requirements applicable to facilities which load volatile organic materials in specified quantities into certain tanks or tank trucks.

3. Regulation APC-15, Section 4, is part of the State of Indiana Implementation Plan, which was created under Section 110 of the Act, 42 U.S.C. 7410.

4. In satisfaction of Section 113(a)(4) of the Act, 42 U.S.C. 7413(a)(4), an opportunity to confer with the Administrator's delegate was extended to Amoco in the NOV, and a conference was held on the record on September 11, 1978.

5. Following the September 11 conference, Amoco, by letter dated September 29, 1978, stated that it intends to install an Edwards low temperature refrigeration vapor recovery unit by July 1, 1979, at its Whiting, Indiana, volatile organic materials loading facility.

6. It has been determined by the U.S. EPA that the Amoco Oil Company is unable to immediately comply with APC-15, Section 4, of the State of Indiana Implementation Plan.

ORDER

After a thorough investigation of all relevant facts, including public comment, it is determined that the schedule for compliance set forth in this Order is as expeditious as practicable, and that the terms of this Order comply with Section 113(d) of the Act. Therefore, it is hereby Agreed and Ordered that:

1. The Amoco Oil Company will comply with the State of Indiana Implementation Plan, APC-15, Section 4, as approved by the U.S. EPA on May 14, 1973, which requires the installation of a vapor collection and recovery system at the volatile organic material loading rack associated with Amoco Oil Company's Whiting, Indiana, facility. Such installation shall be in accordance with the following schedule:

a. October 15, 1978—Place equipment orders for process equipment.

b. April 15, 1979—Process equipment received; start construction and installation.

c. June 15, 1979—Complete construction.

d. July 1, 1979—Complete manufacturer's performance tests; achieve and demonstrate compliance.

2. The Amoco Oil Company shall adopt and implement operation and maintenance procedures to maximize the control efficiency of the vapor collection and recovery system and submit a copy of such procedures to the U.S. EPA.

3. The Amoco Oil Company shall use the best practicable interim system of emission reduction at its Whiting, Indiana loading facility so as to minimize hydrocarbon emissions, avoid any imminent and substantial endangerment to the health of persons, and minimize product spillage.

4. The Amoco Oil Company shall comply with the following emission monitoring and reporting requirements on or before the dates specified below:

a. *Emission Monitoring*—(1) Amoco Oil Company shall, beginning as soon as reasonably practical, maintain a record of the quantity of gasoline which passes through the loading facility.

(2) Amoco shall, beginning as soon as reasonably practicable maintain a record of any malfunctions of the vapor recovery and disposal system (including the reasons for such malfunctions) and the down time of the vapor recovery and disposal system, whether caused by malfunctions or other causes.

b. *Reporting Requirements*—(1) No later than fifteen (15) days after any date for achievement of an incremental step of the compliance schedule specified in this Order, Amoco Oil Company shall notify U.S. EPA in writing of its compliance or noncompliance with the requirement. Amoco Oil Company shall, by August 1, 1979, submit performance test results associated with start up of the vapor collection and recovery system. If Amoco fails to complete any of the actions required by the dates specified in the Order, it shall include a detailed explanation of such failure in the notification required in this paragraph 4.b.(1).

(2). Amoco shall, beginning with the calendar quarter October-December, 1978, report on a quarterly basis the information required to be maintained under paragraph 4.a. of this Order. Such reporting requirement shall terminate following Amoco's submission covering the calendar quarter April–June, 1980.

(3). All submittals, notifications and reports to U.S. EPA pursuant to this Order shall be made to Mr. Eric Cohen, Chief, Compliance Section, Enforcement Division, U.S. EPA, 230 South Dearborn Street, Chicago, Illinois 60604.

5. Amoco is hereby notified that it is the position of the U.S. EPA that failure to achieve final compliance by July 1, 1979, at the Whiting, Indiana loading facility may result in a requirement to pay a noncompliance penalty in accordance with Section 120 of the Act, 42 U.S.C. 7420. In the event of such failure, Amoco will be formally notified, by the U.S. EPA, pursuant to Section 120(b)(3), 42 U.S.C. 7420(b)(3), and any regulations promulgated thereunder, of its noncompliance.

6. This Order shall be terminated in accordance with Section 113(d)(8) of the Act, 42 U.S.C. 7413(d)(8), if the Administrator or his delegate determines on the record, after notice and hearing, that an inability to comply with regulation APC-15, Section 4, of the Indiana Implementation Plan no longer exists.

7. Violation of any substantive requirement of this Order may result in one or more of the following actions:

a. Enforcement of such requirement pursuant to Section 113(a), (b), or (c) of the Act, 42 U.S.C. 7413(a), (b) or (c).

b. Revocation of this Order, after notice and opportunity for a public hearing, and subsequent enforcement of Indiana Implementation Plan regulation APC-15, Section 4, in accordance with the preceding paragraph.

c. If such violation occurs on or after July 1, 1979, notice of noncompliance and subsequent action pursuant to Section 120 of the Act, 42 U.S.C. 7420.

8. This Order is effective upon final promulgation in the FEDERAL REGISTER.

Date: ————

————————————————

Administrator, U.S. Environmental Protection Agency.

Consent to order

The Amoco Oil Company, by the duly authorized undersigned, hereby consents to the requirements of this Order.

Date: ————

JOHN R. ENGEBRETSON,
Distribution Manager,
Amoco Oil Company.

[FR Doc. 79-4241 Filed 2-8-79; 8:45 am]

[6560-01-M]

[40 CFR Part 65]

[FRL 1047-6]

STATE AND FEDERAL ADMINISTRATIVE ORDERS PERMITTING A DELAY IN COMPLIANCE WITH STATE IMPLEMENTATION PLAN REQUIREMENTS

Proposed Delayed Compliance Order for Eli Lilly and Company, Indianapolis, Ind.

AGENCY: U.S. Environmental Protection Agency.

ACTION: Proposed rule.

SUMMARY: U.S. EPA proposes to issue an Administrative Order to Eli Lilly and Company.

The Order requires the Company to bring four plants in Indianapolis, Indiana, (McCarty Street Plant, 1202 Kentucky Avenue Plant, 1555 Kentucky Avenue Plant and Park Fletcher Plant) into compliance with APC-15, Section 8, part of the federally approved Indiana State Implementation Plan (SIP). Because the Company is unable to comply with these regulations at this time, the proposed Order would establish an expeditious schedule requiring final compliance by January 31, 1979, for Source No. 12, Pre-Coat Room at the McCarty Street Plant; by January 15, 1979, for the Surge Tank at the 1202 Kentucky Avenue Plant; by June 1, 1979, for Source No. 2, Coating area EF-9 at the 1555 Kentucky Avenue Plant; by June 30, 1979, for Source No. 3, Granulation Dry House 100 EF/4 at the 1555 Kentucky Avenue Plant; and June 30, 1979, for Source No. 1, Ethyl Alcohol Antibiotic Drying (PI) and for Source No. 2, Methyl Alcohol tablet Coating (P2) at the Park Fletcher Plant. Eli Lilly and Company's compliance with the Order would preclude suits under the Federal enforcement and citizen suit provision of the Clean Air Act (the Act) for violation of the SIP regulations covered by the Order.

The purpose of this notice is to invite public comment and to offer an opportunity to request a public hearing on U.S. EPA's proposed issuance of the Order.

DATES: Written comments must be received on or before March 12, 1979 requests for a public hearing must be received on or before February 24, 1979. All requests for a public hearing should be accompanied by a statement of why the hearing would be beneficial and a text or summary of any proposed testimony to be offered at the hearing. If there is significant public interest in a hearing, it will be held after twenty-one days prior notice of the date, time, and place of the hearing has been given in this publication.

ADDRESSES: Comments and requests for a public hearing should be submitted to Director, Enforcement Division, U.S. Environmental Protection Agency, Region V, 230 South Dearborn Street, Chicago, Illinois 60604. Material supporting the Order and public comments received in response to this notice may be inspected and copied (for appropriate charges) at this address during normal business hours.

FOR FURTHER INFORMATION CONTACT:

Mr. Bertram C. Frey, Attorney, Enforcement Division, U.S. Environmental Protection Agency, 230 South Dearborn Street, Chicago, Illinois 60604, at (312) 353-2082.

SUPPLEMENTARY INFORMATION: Eli Lilly and Company owns four plants in Indianapolis, Indiana. The proposed Order addresses emissions from these plants, which are subject to APC-15, Section 8 of the Indiana Implementation Plan. The regulation limits the emissions of hydrocarbons and is part of the federally approved Indiana State Implementation Plan. The Order requires final compliance with the regulation by January 31, 1979, for Source No. 12, Pre-Coat Room at the McCarty Street Plant; by January 15, 1979, for the Surge Tank at the 1202 Kentucky Avenue Plant; by June 1, 1979, for Source No. 2, Coating area EF9 at the 1555 Kentucky Avenue Plant; by June 30, 1979, for Source No. 3, Granulation Dry Hours 100 EF/4 at the 1555 Kentucky Avenue Plant; and, June 30, 1979, for Source No. 1, Ethyl Alcohol Antibiotic Drying (PI) and for Source No. 2, Methyl Alcohol Tablet Coating (P2) at the Park Fletcher Plant. The Company has consented to the terms of the Order.

The proposed Order satisfies the applicable requirements of Section 113(d) of the Act. If the Order is issued, the Company's compliance with its terms would preclude further U.S. EPA enforcement action under Section 113 of the Act against the Company for violations of the regulation covered by the Order during the period the Order is in effect. Enforcement against the Company under the citizen suit provisions of the Act (Section 304) would be similarly precluded.

Comments received by the date specified above will be considered in determining whether U.S. EPA should issue the Order. Testimony given at any public hearing concerning the Order will also be considered. After the public comment period and any public hearing, the Administrator of U.S. EPA will publish in the FEDERAL REGISTER the Agency's final action on the Order in 40 CFR Part 65.

Dated: January 18, 1979.

JOHN MCGUIRE,
Regional Administrator,
Region V.

In consideration of the foregoing, it is proposed to amend 40 CFR Chapter I, as follows:

PART 65—DELAYED COMPLIANCE ORDERS

1. By adding an entry to the table in § 65.190, *Federal Delayed Compliance Orders issued under Section 113(d) (1), (3), and (4) of the Act* to reflect approval of the following order:

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Order No. ——, Eli Lilly and Company, Indianapolis, Indiana, McCarty Street, Park Fletcher, 1202 Kentucky Avenue, and 1555 Kentucky Avenue Plants.

[FRL 1047-6]

This ORDER is issued this date pursuant to Section 113(d) of the Clean Air Act, as amended, 42 U.S.C. 7401 *et seq.* (Act). This ORDER contains a schedule for compliance, interim control requirements, demonstration of compliance and reporting requirements. Public notice, opportunity for a public hearing, and 30 days notice to the State of Indiana have been provided pursuant to Section 113(d)(1) of the Act.

FINDINGS

1. On May 3, 1978, the United States Environmental Protection Agency (U.S. EPA) issued four Notices of Violation (EPA-5-78-A-78 through 81) for 22 violations of the Indiana Implementation Plan at four plants owned and operated by Eli Lilly and Company (Lilly) in Indianapolis, Indiana. Each Notice contained a finding or findings that Lilly was in violation of the Indiana Implementation Plan for its failure to comply with Indiana APC-15, Section 8, as approved by the U.S. EPA on May 14, 1973 (the regulation), by emitting hydrocarbons in excess of the limits allowed by U.S. EPA's interpretation of the regulation. The findings were based upon emissions calculations derived from data submitted to U.S. EPA by Lilly and from information gained during an inspection of Lilly's facilities.

2. Specifically, U.S. EPA's interpretation is that the regulation is applicable to Lilly as follows:

SECTION 8. EMISSIONS OF ORGANIC SOLVENTS

A. Lilly shall not emit or cause the emission of more than three pounds of organic materials in any one hour or 15 pounds of organic materials in any one day (24 hours) from any article, machine, or equipment unless all organic materials emitted from such article, machine, or equipment are reduced by at least 85 percent from emissions before the application of any control equipment or process. (1) The aggregate emissions of organic materials into the atmosphere from any series of articles, machines, or equipment designed for processing a continuously moving sheet, web, strip, or wire by a combination of operations shall comply with the requirements of this section.

(2) Emissions of organic materials into the atmosphere which result from the cleaning of any article, machine or equipment with organic solvents shall be included with the other emissions or organic materials from such article, machine or equipment in determining compliance with this section.

(3) Emissions or organic materials into the atmosphere which result from the spontaneous drying of products after their removal from any article, machine, or equipment shall be included with other emissions of organic materials from such article, machine, or equipment in determining compliance with this section.

B. The provisions of this section shall not apply to:

(4) The use by Lilly of the following solvents: saturated halogenated hydrocarbons, perchlorethylene, benzene, acetone, C1-C5 n-paraffins, cyclohexanone, ethyl acetate, diethylamine, isobutyl acetate, isoprophl alcohol, methyl benzoate, 2-nitropropane, phenyl acetate, and triethylamine * * *.

The U.S. EPA interpretation does not include the Resolution of the Indiana Air Pollution Control Board regarding APC-15, Section 8, adopted January 4, 1973.

3. More than 30 days have expired since the issuance of the May 3, 1978, Notices of Violation.

4. In satisfaction of Section 113(a)(4) of the Act, opportunity to confer with the Administrator's delegate was given to Lilly and on May 31, 1978, an enforement conference was held. At that conference, Lilly presented evidence that the sources designated as Insulin Extraction Tank #852 (McCarty Street No. 5) and Tank T-29 (McCarty Street No. 13) In Notice of Violation, EPA-5-78-A-80 (McCarty Street Plant) were the same source, the confusion apparently having arisen from information submitted by Lilly itself. In addition, Lilly stated that an additional, unreported source, designated as 1555 Kentucky Avenue No. 4 (HT Area Drying Ovens), had emitted hydrocarbons in excess of limits allowed under U.S. EPA's interpretation of the regulation for approximately 15 days during the calendar year 1977. Based on this information, notice of violation regarding 1555 Kentucky Avenue No. 4 (HT Area Drying Ovens) was given to Lilly at the conference on May 31, 1978.

5. After noting that the described emissions were in compliance with the interpretation of the Indiana Implementation Plan followed by the staff of the Indiana Air Pollution Control Board, Lilly and others, Lilly agreed to undertake compliance with U.S. EPA's interpretation of the regulation in order to avoid the expense and delay of contesting the asserted violations.

6. It has been determined that Lilly is unable to comply immediately with U.S. EPA's interpretation of the regulation at all four Indianapolis plants.

ORDER

After a thorough investigation of all relevant facts, including public comment, it is determined that the schedule for compliance set forth in this ORDER is as expeditious as practicable, and that the terms of this ORDER comply with Sections 113(d) of the Act. Therefore, it is hereby ORDERED:

1. That Lilly comply with U.S. EPA's interpretation of Indiana APC-15, Section 8, as approved by U.S. EPA on May 14, 1973, in accordance with the following schedule on or before the dates specified therein:

A. *McCarty Street Plant:* Source No. 1, Tank T-14 Exhaust—Achieve Compliance, July 6, 1978.* Demonstrate Compliance, August 7, 1978.*

Source No. 2, Tank T-15 Exhaust—Achieve Compliance, July 6, 1978.* Demonstrate Compliance, August 7, 1978.*

Source No. 3, Insulin Extraction Tank #130—Achieve Compliance, July 6, 1978.* Demonstrate Compliance, August 7, 1978.*

Source No. 4, Insulin Extraction Tank #125—Achieve Compliance, July 13, 1978.* Demonstrate Compliance, August 7, 1978.*

Source No. 5, Insulin Extraction Tank #582**—Achieve Compliance, June 13, 1978.* Demonstrate Compliance, August 7, 1978.*

Source No. 6, Tank T-16 Exhaust—Achieve Compliance, July 6, 1978.* Demonstrate Compliance, August 7, 1978.*

Source No. 7, Tank T-17—Achieve Compliance, July 6, 1978.* Demonstrate Compliance, August 7, 1978.*

Source No. 8, Tank T-20A—Achieve Compliance, July 6, 1978.* Demonstrate Compliance, August 7, 1978.*

Source No. 9, Rectification Storage Tank #836—Achieve Compliance, June 13, 1978.* Demonstrate Compliance, August 7, 1978.*

Source No. 10, Rectification Waste Alcohol Tank #801—Achieve Compliance, July 31, 1978.* Demonstrate Compliance, August 7, 1978.*

Source No. 11, Tank T-20B Exhaust—Achieve Compliance, June 13, 1978*. Demonstrate Compliance—August 7, 1978*.

Source No. 12, Pre Coat Room—Submit plans for pollution control, August 7, 1978*. Schedule in-house work program, October 1, 1978*. Start Construction, October 15, 1978*. Complete Construction and Achieve Compliance, December 31, 1978. Demonstrate Compliance by submitting the test results of the efficiency of the carbon adsorption unit and of the emission rates per hour and per day, January 31, 1979.

Source No. 13, Tank T-29 Exhaust**—Achieve Compliance, June 13, 1978*. Demonstrate Compliance, August 7, 1978*.

Source No. 14, Press Room—Achieve Compliance, July 28, 1978*. Demonstrate Compliance, August 7, 1978*.

Source No. 15, Boil Out Tanks—Achieve Compliance, June 23, 1978*. Demonstrate Compliance, August 7, 1978*.

Source No. 16, Alcohol Adsorber—Achieve Compliance, July 15, 1978*. Demonstrate Compliance, August 7, 1978*.

B. *1202 Kentucky Avenue Plant:* Surge Tank—Achieve Compliance, July 21, 1978*. Demonstrate Compliance by submitting test results of the efficiency of the carbon adsorption unit (after installation of improved level controller in alcohol receiving tank) and of the emission rates per hour and per day, January 15, 1979.

C. *1555 Kentucky Avenue Plant:* Source No. 1, F.B. Dryer (100/ST3)—Submit Plans, August 7, 1978*. Achieve Compliance by solvent substitution, November 1, 1978*. Demonstrate Compliance, November 8, 1978*.

Source No. 2, Coating Area EF9—Submit Plans, August 7, 1978*. Begin testing of substitute formulation, September 18, 1978*. Complete testing of substitute formulation, May 1, 1979. Achieve and demonstrate compliance, June 1, 1979.

Source No. 3, Granulation Dry House 100 EF/4—Submit Plans, August 7, 1978*. Achieve interim compliance milestone by substitution with isopropyl alcohol for 16 of 23 products, November 1, 1978*. Achieve interim compliance milestone by substitution with isopropyl alcohol for six additional products, March 1, 1979. Achieve compliance for the 23rd product with FDA approval for substitution of isopropyl alcohol and demonstrate final compliance for all products, June 30, 1979.

Source No. 4, HT Area Drying Ovens—Achieve Compliance, January 1, 1978*. Demonstrate Compliance, August 7, 1978*.

D. *Park Fletcher Plant:* Source No. 1, Ethyl Alcohol Antibiotic Drying (P1)—Submit Plans, Begin formulation and initial testing, August 7, 1978*. Begin stability review, November 1, 1978*. Complete interim stability evaluation, February 1, 1979. Send interim stability review to the Food and Drug Administration (FDA), February 15, 1979. Final decision by FDA, June 1, 1979. Achieve and demonstrate final compliance, June 30, 1979.

Source No. 2, Methyl Alcohol Tablet Coating (P2)—Submit Plans, Begin formulation and initial testing, August 7, 1978*. Begin stability review, November 1, 1978*. Complete interim stability evaluation, February 1, 1979. Send interim stability review to the Food and Drug Administration (FDA), February 15, 1979. Final decision by FDA, June 1, 1979. Achieve and demonstrate final compliance, June 30, 1979.

II. That the schedule set forth under Paragraph I above contains interim requirements which are determined to be reasonable and the best practicable system of emission reduction, which are necessary to avoid imminent and substantial endangerment to health of persons, and which are necessary to assure compliance with U.S. EPA's interpretation of the regulation insofar as Lilly is able to comply during the period this ORDER is in effect. Lilly shall immediately institute any additional, appropriate operations and maintenance procedures that it determines will result in the minimization of hydrocarbon emissions during the interim period preceding final compliance for each source.

III. That Lilly shall comply with the following emissions reporting requirements on or before the dates specified:

A. No later than five working days after any date for achievement of an incremental step or final compliance specified in this ORDER, Lilly shall notify U.S. EPA in writing of its compliance, or noncompliance and the reasons therefor, with the requirement. If delay is anticipated in meeting any requirement of this ORDER, Lilly shall immediately notify U.S. EPA in writing of the anticipated delay and the reasons therefor. Notification to U.S. EPA of any anticipated delay does not excuse the delay.

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*These dates have been met by Eli Lilly and Company.

**Source No. 5 and Source No. 13 are identical sources.

B. All submittals and notifications to U.S. EPA under the terms of this ORDER shall be made to James O. McDonald, Director, Enforcement Division, Region V, U.S. EPA, 230 South Dearborn Street, Chicago, Illinois 60604.

IV. Lilly is not relieved by this ORDER from compliance with any requirements imposed by the applicable State implementation plan, U.S. EPA, and/or the courts pursuant to Section 303 of the Act during any period of imminent and substantial endangerment to the health of persons.

V. Nothing herein shall affect the responsibility of Lilly to comply with any State or local regulations, and with any other Federal regulations.

VI. Lilly is hereby notified that its failure to achieve final compliance as specified above by July 1, 1979, will result in a requirement to pay a noncompliance penalty under Section 120 of the Act, unless U.S. EPA's interpretation of the regulation is invalidated. In the event of such failure, Lilly will be formally notified, pursuant to Section 120(b)(3) of the Act. The notification given by this paragraph, however, does not constitute notice for purposes of Section 120(b)(3) of the Act.

VII. As long as Lilly is in compliance with the terms of this Order, U.S. EPA shall not institute any Federal enforcement action against Lilly concerning the four facilities which are the subject of this Order, based on its asserted noncompliance with U.S. EPA's interpretation of the regulation.

VIII. This Order is entered into and Lilly's consent to it is made for the sole purpose of settlement of this matter by compromise to avoid the expense and delay of contesting the asserted violations. Such consent shall not be deemed a waiver by Lilly of any right it may have to contest U.S. EPA's findings or assertion that Lilly is in violation of the regulation or to contest the applicability of the regulation to Lilly. However, Lilly has specifically agreed to the terms of this Order and shall not be entitled to challenge any of the terms in an action to enforce the Order.

IX. This ORDER is effective immediately.

Dated February 1, 1979.

BARBARA BLUM,
Acting Administrator,
U.S. Environmental Protection Agency.

Consent to issuance of order

Eli Lilly and Company, by the duly authorized undersigned, hereby consents to the issuance of this ORDER.

Dated December 14, 1978.

RAYMOND E. CRANDALL,
Group Vice-President,
Biochemical Operations.

[FR Doc. 79-4242 Filed 2-8-79; 8:45 am]

[6560-01-M]

[40 CFR Part 65]

[FRL 1056-5; Docket No. DCO-78-33]

STATE AND FEDERAL ADMINISTRATIVE ORDERS PERMITTING A DELAY IN COMPLIANCE WITH STATE IMPLEMENTATION PLAN REQUIREMENTS

Proposed Delayed Compliance Order For Collins and Aikman Corp, Albemarle, North Carolina

AGENCY: Environmental Protection Agency.

ACTION: Proposed Rule.

SUMMARY: EPA proposes to issue a Delayed Compliance Order (DCO) to Collins and Aikman Corp (C&A). The DCO requires C&A to bring its two coal fired boilers at Albemarle, North Carolina, into compliance with an applicable regulation contained in the Federally-approved North Carolina State Implementation Plan (SIP). Because C&A is unable to comply with this regulation at this time and C&A will use a new means of emission limitation to achieve compliance with the regulation, the proposed DCO would establish an expeditious schedule requiring final compliance by June 1, 1980. Source compliance with the DCO would preclude suits under the Federal enforcement and citizen suit provisions of the Clean Air Act for violation of the SIP regulations covered by the DCO. The purpose of this notice is to invite public comment and to offer an opportunity to request a public hearing on this proposed DCO.

DATES: Written comments must be received on or before March 12, 1979, and requests for a public hearing must be received on or before February 26, 1979. All requests for a public hearing should be accompanied by a statement as to why the hearing would be beneficial and a text or summary of any proposed testimony to be offered at the hearing. If there is significant public interest in a hearing, it will be held after twenty-one days prior notice of the date, time, and place of the hearing has been given in this publication.

ADDRESSES: Comments and requests for a public hearing should be submitted to Paul J. Traina, Director, Enforcement Division, EPA, Region IV, 345 Courtland Street, Atlanta, Georgia 30308. Material supporting the Delayed Compliance Order and public comments received in response to this notice may be inspected and copied (for appropriate charges) at this address during normal business hours.

FOR FURTHER INFORMATION CONTACT:

Floyd Ledbetter, Air Enforcement Branch, Enforcement Division, EPA, Region IV, 345 Courtland Street N.E., Atlanta, Georgia 30308, telephone number: (404) 881-4298.

SUPPLEMENTARY INFORMATION: The two coal fired boilers were installed in 1955 and were controlled at that time by mechanical collectors. In 1970 the boilers were converted to oil firing. Until July 1976 both units were certified as being in compliance with Title 15 of the North Carolina Administrative code, Subchapter 2D, Section .0503, the applicable State particulate emission-limiting regulations. In July 1976, due in part to fuel costs and fuel availability, the company switched one unit back to coal firing. In August 1976, a particulate emission source test was conducted on the coal fired boiler and the test results indicated non-compliance. In July 1977, the second boiler was converted back to coal firing. The State of North Carolina then proceeded to negotiate a compliance schedule with Collins & Aikman. In the latter stages of negotiations the company discovered a potentially new fuel supply, pelletized wood, which could be burned without modification to its existing boilers or the existing control equipment. The pelletized wood showed great potential as both a clean and energy-conserving fuel.

In December 1977, this new fuel was used in one of the company's coal fired boilers during a stack test, and the results indicated this fuel should allow the source to achieve compliance with the applicable North Carolina particulate regulation and entirely eliminate the sulfur dioxide emission associated with coal fired boilers.

In February 1978, Collins & Aikman submitted an application to EPA requesting that a Delayed Compliance Order be issued to the company pursuant to Section 113(d) of the Clean Air Act, 42 U.S.C. 7413(d). The company represented that use of the pelletized fuel would constitute a "new means of emission limitation" as defined by Section 113(d)(4) of the Clean Air Act, 42 U.S.C. 7413(d)(4), and, therefore, the company should be granted a compliance schedule extending to five years from the June 1, 1975 date for final compliance contained in the North Carolina SIP.

Pursuant to Section 113(a)(1) of the Clean Air Act, 42 U.S.C. 7413(a)(1), on May 19, 1978, EPA issued a Notice of Violation to Collins and Aikman for violation of the particulate emission limiting regulations from its two coal fired boilers. After a thorough and lengthy investigation and evaluation, this agency has determined that the company's proposed use of the pelletized wood does constitute a "new means of emission limitation" as defined by Section 113(d)(4) of the Act.

EPA, therefore, proposes to issue a DCO which requires final compliance with the applicable particulate emission limit in Section .0503 if coal is used and in Section .0504 if wood is used, by June 1, 1980. The source has consented to the terms of the Delayed Compliance Order and has agreed to meet the Delayed Compliance Order's remaining increments during the period of this informal rulemaking. If the Delayed Compliance Order is issued, source compliance with its terms would preclude further EPA enforcement against this source for violation of the applicable regulation covered by the Delayed Compliance Order while the Delayed Compliance Order is in effect. Enforcement against the source under the citizen suit provision of the Act (Section 304) would be similarly precluded.

Comments received by the date specified above will be considered in determining whether EPA should issue the Delayed Compliance Order. Testimony given at any public hearing concerning the Delayed Compliance Order will also be considered. After the public comment period and any public hearing, the Administrator of EPA will publish in the Federal Register the Agency's final action on the Delayed Compliance Order in 40 CFR Part 65.

Dated: January 4, 1979.

John C. White,
Regional Administrator,
Region IV.

PART 65—DELAYED COMPLIANCE ORDER

1. By amending the table in § 65.380 to reflect approval of the following order: Docket No. DCO-78-33. Text of order follows:

ENVIRONMENTAL PROTECTION AGENCY

DELAYED COMPLIANCE ORDER

In the matter of Collins & Aikman Corp., Albemarle, North Carolina, proceeding under section 113(d) clean air act, as amended, Docket No. DCO-78-33.

This Delayed Compliance Order is issued this date pursuant to Section 113(d) of the Clean Air Act, as amended, 42 U.S.C. 7413(d) (hereinafter referred to as the "Act"). This Delayed Compliance Order contains a schedule for compliance and reporting requirements. Public notice, opportunity for a public hearing, and thirty days notice to the State of North Carolina have been provided pursuant to Section 113(d)(1) of the Act.

FINDINGS

On May 19, 1978, Mr. Paul Traina, Director, Enforcement Division, Region IV, United States Environmental Protection Agency, pursuant to authority delegated to him by the Administrator, issued a Notice of Violation to Collins and Aikman Corporation (hereinafter referred to as "C & A"), informing C & A that the two coal fired boilers at its Albemarle facility were found to be in violation of Title 15 North Carolina Administrative Code, Subsection 2D, Section .0503, control of particulate emissions from fuel burning sources. Said violations have continued beyond the 30th day after receipt of the Enforcement Director's notification to C & A.

On February 22, 1978, Collins & Aikman, after sample testing, investigation, and discussions with the State of North Carolina, proposed the use of pellitized wood technology to achieve greater emission limitation than that attainable using existing technology, and requested from the Environmental Protection Agency a delayed compliance order for the time necessary to install and implement such innovative technology as provided by Congress in Section 13(d)(4) of the Clean Air Act.

A thorough investigation and analysis of all relevant facts indicates that C & A is unable to comply immediately and that use of this new means of emission limitations as defined in Section 113(d)(4) of the Act, as amended, 42 U.S.C. 7413(d)(4), or the installation of fuel oil burning equipment, is necessary to achieve compliance with the applicable North Carolina air pollution regulations, 15 NCAC 2D Section .0503, if fossil fuel is used only; and 15 NCAC 2D Section .0504, if wood is used.

After investigation, EPA has determined that: (1) The use of this innovative technology (burning pellitized wood) is likely to be adequately demonstrated upon expiration of this Order; and (2) Collins and Aikman is not likely to use this method of emission reduction without this order; and (3) the conversion from coal to wood pellets has a substantial likelihood of achieving greater continuous emission reduction than would otherwise be required, and has the added anti-inflationary benefit of achieving continuous emission reduction equal to that otherwise attainable at lower economic and energy costs; and (4) will utilize a plentiful energy source which might otherwise be under utilized; and (5) it would be impractical to expect Collins and Aikman to be in compliance with the State Implementation Plan prior to or during installation of the wood pellet technology. The Agency also finds that the use of this technology is in keeping with the State of North Carolina's program to utilize its vast and replenishable wood resources. Therefore, EPA has determined that compliance in accordance with the schedule hereinafter set forth is reasonable and as expeditious as practicable.

ORDERED

I. ABATEMENT PROGRAM

The attached Appendix governing an abatement program is incorporated into and made a part of this Delayed Compliance Order for the control of particulate emissions at C & A located in Albemarle, North Carolina.

The Appendix is designated as follows:

APPENDIX A: TWO COAL FIRED BOILERS

II. REPORTS—ADDRESSEES

All submissions of source performance test results, reports and other items required by this Delayed Compliance Order shall be made to Paul J. Traina, Director, Enforcement Division, United States Environmental Protection Agency, 345 Courtland Street, Atlanta, Georgia 30308 (hereinafter referred to as the "Director"), with copies to the Director, North Carolina Division of Environmental Management, P.O. Box 27687, Raleigh, North Carolina 27611 (hereinafter referred to as the "State Director").

III. PROGRESS REPORTS—MILESTONE CERTIFICATION

C & A shall submit, no later than five (5) days after the end of each quarter, a quarterly progress report for the emission points specified in Part I. The first quarterly report shall be due on January 5, 1979. These reports shall contain specific information on the progress toward each milestone in Part I. If any delay is anticipated in meeting said milestones, C & A shall immediately notify the Director in writing of the anticipated delay and reasons therefor. Notification to EPA of any anticipated delay shall not excuse the delay. In addition, C & A shall submit, no later than five (5) days after the deadline for completing each milestone required by Part I, certification to the Director and the State Director whether such milestone has been met.

IV. METHOD OF TESTS AND REQUIRED NOTIFICATION

C & A shall provide the Director and State director with twenty (20) days notice prior to the conducting of any performance tests required by Part I in order to afford an opportunity to evaluate the test procedure and to have an observer present at such testing. The required tests for particulate emissions shall be conducted in accordance with EPA test reference methods specified in 40 CFR Part 60.

V. MALFUNCTIONS AND BREAKDOWNS

C & A shall perform operation and maintenance practices on all sources as necessary to prevent malfunctions or breakdowns and to reduce emissions in excess of regulations to the maximum extent practicable. When emissions due to sudden and unforeseen malfunction or breakdown of the affected facility exceed those which occur during the normal operation of the two coal fired boilers for greater than four (4) hours, the operator shall notify this office and the appropriate state air pollution control agency by telephone or telegram as promptly as possible, and in no event later than twelve (12) hours following the start of such malfunction or breakdown, and shall cause written notice to be sent to the Director and the State Director, no later than the end of the next working day following the start of such malfunction or breakdown. Such notices shall specify the name of the affected facility, its location, the address and telephone number of the person responsible for the affected facility, the nature and cause of the malfunction or breakdown, the date and time when such malfunction or breakdown was first observed, the expected duration, and an estimate of the physical and chemical composition, rate, and concentration of the emission. C & A shall remedy the malfunction or breakdown as soon as possible thereafter and shall take reasonable steps to reduce emissions during the malfunction or breakdown.

The Regional Administrator shall have the authority during a malfunction or breakdown to require C & A to take specific steps to reduce emissions, including process equipment modifications and/or reductions, or termination if necessary. Within ten (10) days after the termination of a malfunction or breakdown requiring the above notification, the owner shall submit a report detailing:

(1) The time the excess emission began and ended;

(2) The time of the beginning and end of the malfunction or breakdown which is asserted to be the cause of the excess emission;

(3) An estimate of the physical and chemical composition, rate, and concentration of emissions which occurred.

(4) An explanation and, where appropriate, an engineering analysis of the cause of the malfunction or breakdown;

(5) A description of those operating and/or maintenance procedures and practices in use prior to and during the occurrence, which were designed to prevent or minimize the extent and duration of the malfunction or breakdown;

(6) Any other steps taken to minimize the extent or duration of the malfunction or breakdown;

(7) An analysis of what steps will be taken to prevent or minimize similar occurrences in the future; and

(8) Such additional information as the Regional Administrator may require.

VI INTERIM REQUIREMENTS

A. For the period during which this Order is in effect, C & A shall at all times comply with the following interim emission requirement for the two coal fired boilers which represents the best practicable system of emission reduction:

1. The particulate emissions from each of the coal fired boilers shall not exceed 0.66 pounds per million BTU heat input.

If, at any time during the effective period of this Order, the applicable interim emission requirement is violated, C & A shall notify EPA of the violation as soon as possible, but no later than twenty-four hours after the start of the violation.

B. In addition to the foregoing interim emission requirement, for the period during which this Order is in effect, C & A shall take all necessary and reasonable steps to comply with the applicable emission limitations contained in the State Implementation Plan insofar as C & A is able, and shall take all necessary and reasonable precautions to ensure that its emissions will not cause or contribute to a violation or violations of National Ambient Air Quality Standards.

C. Furthermore, C & A shall comply with any emergency requirements specified by EPA pursuant to Section 303 of the Clean Air Act, 42 U.S.C. 7603, to prevent an imminent and substantial endangerment to human health.

VII COMPLIANCE RESPONSIBILITY

Nothing herein shall affect the responsibility of the source to comply with all other applicable Federal, State, or local regulations.

VIII ORDER TERMINATION

This Delayed Compliance Order shall be terminated in accordance with Section 113(d)(8) of the Act if the Administrator determines on the record after notice and hearing, that the inability to comply with the applicable regulation governing the fuel being used no longer exists.

IX VIOLATION OF REQUIREMENTS

Violation of any requirement of this Delayed Compliance Order shall result in one or more of the following actions:

(a) enforcement of such requirement through the commencement of a civil action for injunctive relief and the assessment of civil penalties pursuant to Section 113(b) of the Act, or a criminal prosecution pursuant to Section 113(c) of the Act, or both:

(b) revocation of this Delayed Compliance Order, after notice and opportunity for a public hearing, and subsequent enforcement of the applicable fuel burning regulation in accordance with Sections 113(b) and/or (c) of the Act.

X NONCOMPLIANCE PENALTY

Failure by C & A to achieve and certify compliance by July 1, 1980, and maintain compliance thereafter, shall result in one or more of the actions identified in Part IX(a).

In addition, noncompliance beyond July 1, 1980 shall subject C & A to an administratively assessed noncompliance penalty pursuant to the requirements of Section 120 of the Act and any rules and regulations promulgated pursuant thereto, unless C & A is exempted by Section 120(a)(2)(B)(C) of the Act. In the event of noncompliance after July 1, 1980, C & A will be formally notified of its noncompliance pursuant to Section 120(b)(3) of the Act.

XI WAIVER OF RIGHTS

By consenting to the terms and conditions of this Delayed Compliance Order, C & A waives any and all rights it may have to seek a stay of enforcement of this Delayed Compliance Order in connection with any judicial review of the North Carolina State Implementation Plan or portion thereof.

XII EFFECTIVE DATE

This Delayed Compliance Order shall have full force and effect upon execution.

APPENDIX A

TWO COAL FIRED BOILERS

United States Environmental Protection Agency Delayed Compliance Order[*]

Collins and Aikman shall complete or have completed the following acts with respect to control of particulate emissions from the two boilers at its facility located in Albemarle, North Carolina, on or before the dates specified:

1. December 1, 1978—Negotiate and sign all necessary contracts with fuel suppliers to procure sufficient pelletized fuel to operate the two boilers in accordance with the requirements of this Order.

2. November 1, 1979—Begin receiving and using the pelletized fuel and evaluating the reliability of the fuel supply.

3. March 15, 1980—Complete performance testing and achieve and maintain compliance with 15 NCAC 2D Section .0504 and certify such compliance and the reliability of the fuel supply to EPA.

4. March 20, 1980—In the event that the control plan specified in paragraphs 1 through 3 of Appendix A fails to achieve and maintain compliance with 15 NCAC 2D Section .0504 by March 15, 1980, complete general specifications for emission control equipment and submit to EPA a control plan that describes at a minimum the steps to be taken to achieve compliance with the applicable particulate and visible emission limiting regulations.

5. April 1, 1980—Negotiate and sign all necessary contracts for the emission control system.

6. April 5, 1980—Initiate on-site construction or installation of emission control equipment.

7. June 25, 1980—Complete on-site construction or installation of emission control equipment.

8. July 1, 1980—Complete performance testing and achieve final compliance with 15 NCAC 2D Section .0503 and certify such compliance to EPA.

CONSENT[*]

Collins and Aikman corporation (C & A) acknowledges that particulate emissions fom its two coal fired boilers located at its facility in Albemarle, North Carolina, are in violation of the applicable emission limitations contained in the Federally-approved North Carolina Implementation Plan. C & A has reviewed this Delayed Compliance Order, believes it to be a reasonable and expeditious means to achieve compliance with the applicable particulate emission limiting regulation as contained in the Federally-approved North Carolina Implementation Plan, and consents to all of the requirements and terms of this Delayed Compliance Order. C & A also agrees to meet all of the provisions of this Order during the informal rulemaking process.

C & A hereby represents that it has full legal authority to enter into and perform in accordance with the terms and provisions of this Delayed Compliance Order. The signatory below represents that he has the requisite authority to execute this Consent on behalf of the Corporation.

Dated: October 30, 1978.

R. W. McCULLOUGH,
Executive Vice President.
Collins and Aikman Corporation.

[FR Doc. 79-4559 Filed 2-8-79; 8:45 am]

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[*] This appendix is attached to and incorporated by reference into a Delayed Compliance Order issued to Collins and Aikman corporation on ———— pursuant to Section 113(d) of the Clean Air Act, 42 U.S.C. § 7413(d).

[*] This Consent is hereby attached to and incorporated by reference into a Delayed Compliance Order issued to Collins and Aikman Corporation on ———— pursuant to Section 113(d) of the Clean Air Act, 42 U.S.C. § 7413(d).

[4110-12-M]

DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE

Office for Civil Rights

Office of the Secretary

[45 CFR Part 86]

TITLE IX OF THE EDUCATION AMENDMENTS OF 1972; A PROPOSED POLICY INTERPRETATION

Title IX and Intercolligiate Athletics; Notice of Comment Period

AGENCY: Office for Civil Rights, Office of the Secretary, HEW.

ACTION: Proposed Policy Interpretation; notice of comment period.

SUMMARY: On December 11, 1978, the Office for Civil Rights published a proposed policy interpretation regarding the applicability of Title IX of the Education Amendments of 1972 to intercollegiate athletics (43 FR 58070). The Department requested written comments by February 10, 1979.

Several organizations and institutions have requested that the comment period be extended for 30 days. The requested extension cannot be granted because of the need to complete the final policy interpretation before April 1, 1979 in time to become effective prior to the 1979-80 academic year. However, the Department is aware of the difficulties some organizations and institutions are experiencing in preparing their comments and will therefore accept late comments until March 2, 1979.

DATE: Late comments will be accepted until March 2, 1979.

ADDRESS: Send comments to: Director, Office for Civil Rights, U.S. Department of Health, Education, and Welfare, 330 Independence Avenue SW., Washington, D.C. 20201.

FOR FURTHER INFORMATION CONTACT:

Michael Middleton, (202) 245-6118.

Dated: February 5, 1979.

David S. Tatel,
Director,
Office for Civil Rights.

[FR Doc. 79-4565 Filed 2-8-79; 8:45 am]

notices

This section of the FEDERAL REGISTER contains documents other than rules or proposed rules that are applicable to the public. Notices of hearings and investigations, committee meetings, agency decisions and rulings, delegations of authority, filing of petitions and applications and agency statements of organization and functions are examples of documents appearing in this section.

[3410-05-M]

DEPARTMENT OF AGRICULTURE

Commodity Credit Corporation

[Amdt. 7]

SALES OF CERTAIN COMMODITIES

Monthly Sales List (Period June 1, 1978 Through May 31, 1979); Rice

The CCC Monthly Sales List for the period June 1, 1978 through May 31, 1979, published at 43 FR 29819 (July 11, 1978), as amended at 43 FR 35737 (August 11, 1978), at 43 FR 46354 (October 6, 1978), at 43 FR 51693 (November 6, 1978), at 43 FR 58396 (December 14, 1978), at 44 FR 4748 (January 23, 1979), is further amended by deleting the provisions of section 25 entitled "Rise, Rough—Unrestricted Use Sales (f.o.b. warehouse)".

(Sec. 4, 62 Stat. 1070, as amended (15 U.S.C. 714b); sec. 407, 63 Stat. 1055, as amended (7 U.S.C. 1427))

Effective date: January 19, 1979, 4:45 P.M. (CST).

Signed at Washington, D.C., on January 31, 1979.

RAY FITZGERALD,
Executive Vice President, Commodity Credit Corporation.

[FR Doc. 79-4432 Filed 2-8-79; 8:45 am]

[3410-03-M]

Science and Education Administration

NATIONAL AGRICULTURAL RESEARCH AND EXTENSION USERS ADVISORY BOARD

Meeting

In accordance with the Federal Advisory Committee Act of October 6, 1972, (Public Law 92-463, 86 Stat. 770-776), the Science and Education Administration announces the following meeting:

NAME: National Agricultural Research and Extension Users Advisory Board.

DATES: February 22, 23, 1979.

TIME: 9:00 a.m.

PLACE: Room 218-A, Administration Building, 12th and Jefferson Drive, S.W., Washington, D.C.

TYPE OF MEETING: Open to the public. Persons may participate in the meeting as time and space permit.

COMMENTS: The public may file written comments before or after the meeting with the contact person listed below.

PURPOSE: To organize this new Board and initiate measures to develop independent advisory opinions on the food and agricultural sciences.

CONTACT PERSON FOR AGENDA AND MORE INFORMATION:

Dr. James Nielson, Executive Director of the Board, Science and Education Administration, U.S. Department of Agriculture, Washington, D.C. 20250, telephone: 202-447-8662.

Done at Washington, D.C., this 6th day of February, 1979.

JAMES NIELSON,
Executive Director, National Agricultural Research and Extension Users Advisory Board.

[FR Doc. 79-4550 Filed 2-8-79; 8:45 am]

[6320-01-M]

CIVIL AERONAUTICS BOARD

[Order 79-2-12; Docket 34194]

AIR NEW ENGLAND, INC.

Order Granting Petition

In the matter of Air New England, Inc., notice of suspension of nonstop service.

Adopted by the Civil Aeronautics Board at its office in Washington, D.C. on the 2nd day of February, 1979.

On December 7, 1978, Air New England (ANE) filed notice, under section 401(j)(2) of the Act, of its intent ot suspend its nonstop service between New Bedford, Massachusetts, and New York City, and to transfer it to the New Bedford-Boston market, effective February 5, 1979. This will terminate New Bedford's only air service to New York.

The Massachusetts Aeronautics Commission, on December 22, 1978, filed a statement outlining the problems of air service at New Bedford, and calling our attention to the City's attempts to bolster its economic health. It requested us to evaluate the City's essential level of service.

The City of New Bedford replied to ANE's notice on January 19, 1979. In a lengthy and copiously documented objection, it set forth arugments as to why we should prohibit ANE from terminating its New Bedford-New York service. Specifically it requested us to (1) determine that ANE's service is essential within the meaning of section 419; (2) find a replacement carrier for this market; (3) require ANE to continue serving the market until a replacement is found; and (4) prohibit ANE from suspending its service until we have determined the essential level of air transportation for New Bedford.

We have decided to grant New Bedford's petition to the extent that we will make an interim determination of essential air service, and require ANE to provide this level until we have secured a replacement carrier. To explain the rationale behind our decision, we discuss below the specific factual context of this case.

ANE is the only certificated carrier now serving New Bedford, and is the only carrier providing service to New York.[1] It also schedules flights to Hyannis, Nantucket and Martha's Vineyard, Massachusetts. The City is served by a commuter, Nor East, which schedules daily flights to the Massachusetts points named above, as well as to Boston.[2]

A substantial majority of the air traffic in and out of New Bedford is traffic with New York. During the year ending March 31, 1978, it accounted for 8,690 passengers, or 67 percent of the total inbound and outbound traffic; 54 percent was of New York origin or destination, and 13 percent was connecting traffic.[3] While the absolute number of enplanements and deplanements and deplanements at the points has fluctuated markedly during the past five years,[4] the relative proportion of New York O&D passengers has remained fairly constant.

New York is also a city of vital economic interest ot New Bedford, whose economic lifeblood is the textile and garment industry. The City asserts that 55 percent of its work force is employed in manufacturing, and that 45 percent of this number is involved in production of apparel or other textile products, most of which are made for New York markets. Many of the City's industrial concerns are headquartered in, or maintain offices in, New York, and thus rely on convenient travel between the cities. Other local firms have continuing business relations with New York firms, necessitating frequent trips by air. The importance of business travel in this market is shown by figures complied in a 1975 survey of ANE passengers at the New Bedford airport, which revealed that 60 percent of those New York-bound passengers questioned were traveling on business. The survey also indicated that a substantial number of these travelers use the airport frequently. The City has come to depend upon air service to New York, which it has enjoyed continuously since 1947.

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[1] ANE schedules two daily round trips to New York: one flies six days per week, the other, five.

[1] Nor East schedules four daily round trips, with Piper Navajo aircraft, between New Bedford and Boston: two flights seven days per week, and two six days per week.

[3] Source: CAB Domestic O&D Survey, Table 12.

[4] The total O&D traffic at New Bedford in 1972 was 4,880. In 1975 (due partly to the certificaton of ANE) the figure rose to 18,170. It fell to 13,240 in 12976, and by the year ending March 31, 1978, had risen to 15,920. Source: CAB Domestic O&D Survey, Table 11.

The City stresses the importance of air contact with New York to its economic revitalization. To recover from years spent in the economic doldrums, the City has embarked on a multitude of projects designed to attract new industry and tourism, and increase employment. Notable among them is a Foreign Trade Zone which has been established at the Municipal Airport, which the City forecasts will create an additional 2,000 jobs. The management of these industries that have indicated an interest in this Zone are depending on air transportation from the airport tothe New York markets. ANE's intended termination may seriously jeopardize the success of the City's plans.[5]

After considering these matters, we have concluded that ANE's proposed suspension reasonably appears to deprive New Bedford of essential air service. We will therefore make an interim determinaton of the City's essential level, and will require ANE to supply this level of service until a replacement carrier can be secured.

We candidly admit that this has not been an easy decision to reach. New Bedford is not a remote or isolated community; it is 55 miles from Boston, and 31 miles from Providence (38 miles to the Providence airport) by major local or interstate highways. It receives, and would continue to receive after ANE's transfer of service, a reasonable frequency of service by ANE and Nor East to several points within Massachusetts. This frequency is far above the minimum level of essential service specified by the Act.[6] ANE is not proposing to terminate all service, but merely to transfer to the Boston market those flights now made to and from New York.

Nevertheless, the Act requires us to consider more than frequency of flights in determining essential service. Congress has defined essential service as

> . . . scheduled air transportation of persons to a point provided under such criteria as the Board determines satisfies the needs of the community concerned for air transportation to *one or more communities of interest and insures access to the Nation's air transportation* system. . . .[7] [Emphasis added]

Air service to the hub of Boston fulfills the requirement that the City must have access to the nation's air transportation system. However, we must also ensure New Bedford's access to one or more communities of interest. While Boston is one of New Bedford's communities of interest in that there are many economic and interpersonal ties between them, the facts indicate that New York is the principal community of interest for the majority of air travelers. It is the origin and destination of most of the air traffic at New Bedford, and while ground transportation is an easy alternative means of travel to Boston, commerce with New York demands the availability of flight. Although air transport is available to New York by way of Boston, this is a considerable backhaul, and substantially increases the time and expenses of travel between these two points.

Because of the particular facts of this case, which combine to make air service to New York so vital to the welfare of New Bedford, our interim determination of esential air service must include service to this major community of interest. We determine, for now, that the minimal level of essential air service at New Bedford consists of two daily round trips in the New York, market, one five days per week, the other six days per week, scheduled at times convenient for business travelers.[8] The type of aircraft required is discussed below.

Now that we have determined, for the time being, the essential needs of New Bedford, the Act requires us to attempt to secure a replacement for ANE to provide the essential level of service. If we have not found a replacement that can begin the service before the expiration of the 60-day notice period, February 5, 1979 (which at this late date is highly unlikely), we must require ANE to continue its service for an additional 30-day period, or until a replacement has begun service. We may continue to renew this mandate for additional 30-day periods until replacement service is supplied. During this period, ANE will continue to receive compensation under section 406 of the Act.[9]

Therefore, we direct ANE (in the absence of the initiation of replacement service before February 5) to continue its air service between New Bedford and New York, using twin engine aircraft of not less than 18-passenger seating capacity. We also hereby invite interested applicants to submit service proposals indicating the communities they desire to service, and the service pattern and type of equipment to be operated and whether subsidy would be necessary and, if so, the amount required. We will also consider proposals for serving the market with a combination of greater frequency and smaller aircraft that will provide a comparable level of service. Once we have determined that a qualified carrier (or carriers) will be able to inaugurate and maintain the essential level of service at New Bedford, we will relieve ANE of its obligation to provide such service.

Accordingly,

1. We grant the petition of the City of New Bedford, Massachusetts, Docket 34194, to the extent that it requests us to make an interim determination of the City's essential level of air service, to attempt to secure a carrier to supply the essential service, and to prohibit Air New England, Inc., from suspending the scheduled service it is currently providing between New Bedford and New York City below the specified essential level until the replacement carrier begins providing the essential service;

2. We find, as an interim determination, that, at a minimum, the essential air transportation needs of New Bedford, Massachusetts, are as follows: two round trips per day, one scheduled five days per week and the other six days per week, scheduled at times convenient for business travel, between New Bedford and New York City, utilizing twin engine aircraft with a seat-

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[5] The information concerning the Foreign Trade Zone is contained in a letter to the Chairman from Mr. Isidore Eisner, manager of the New Bedford Airport, dated January 2, 1979, and in a letter to us from Richard McNeil, Director of Economic Development, City of New Bedford Industrial Development Commission, dated December 26, 1978. Both letters have been made part of Docket 34194.

[6] Section 419(f)(1) of the Act requires that "in no case shall essential air transportation be specified as fewer than two daily round trips five days per week, or the level of service provided by air carriers to such point based on the schedules of such air carriers in effect for calendar year 1977, whichever is less. . . ."

[7] Federal Aviation Act of 1958, as amended, 419(f).

[8] The Act allows us until October 1979, to complete our final determinations of essential service for eligible points. By that time, we will make a more complete evaluation of New Bedford's needs and may conclude that the essential level is different from the level determined here. Our interim determination will only be effective until a final determination is made.

[9] Act, section 419(a)(6) and (7)(A).

ing capacity of not less than 18 passengers;

3. We invite any interested persons to submit proposals for providing the essential air service needs of New Bedford, with compensation, if necessary;

4. We require Air New England to continue to provide the essential level of air transportation at New Bedford for an additional 30-day period, from February 5, 1979, to March 6, 1979, or [until a fit, willing and able replacement carrier(s) is found by us to be able to inaugurate and maintain essential air transportation at New Bedford, whichever first occurs, if on February 5, 1979, replacement service is not being provided at the level determined here to be essential;

5. We will serve a copy of this order on the City of New Bedford, Air New England, Inc., the Massachusetts Aeronautics Commission, the State of Massachusetts, all certificated and commuter carriers serving the States of Massachusetts and Rhode Island, and any other persons who have filed documents or who appear on the service list in Docket 34194; and

6. This order may be amended or revoked at any time at our discretion without a hearing.

This order shall be published in the FEDERAL REGISTER.

By the Civil Aeronautics Board:

PHYLLIS T. KAYLOR,
Secretary.

[FR Doc. 79-4509 Filed 2-8-79; 8:45 am]

[6320-01-M]

[Order 79-2-13; Docket 34657]

DIRECTOR OF BUREAU OF PRICING AND DOMESTIC AVIATION

Delegation of Authority

Adopted by the Civil Aeronautics Board at its office in Washington, D.C., on the 2nd day of February, 1979.

Delegation of authority to Director Of The Bureau of Pricing and Domestic Aviation pending settlement Of any strike against United Air Lines.

We have been informed that there is the possibility of a strike against United Air Lines by the International Association of Machinists, beginning at 12:01 a.m., February 3, 1979. Such an action by United's personnel could cause severe inconvenience to thousands of passengers, and disruption of the nation's air transportation system.

To minimize the effects of this strike on the public, we have decided to delegate authority to the Director of the Bureau of Pricing and Domestic Aviation to grant or deny petitions by carriers for emergency exemption authority to provide service on United's routes. Under section 416(b) of the Act. This delegation of authority becomes effective if there is a strike at 12:01 a.m., February 3, 1979, and shall continue in effect until the cessation of any work stoppage, unless earlier terminated;

We emphasize that, by our action here, it is not our intention to intervene in a labor controversy nor to favor one side against the other; we do not believe that the strictly limited procedural steps taken will have that effect. Our sole purpose as in the past, is to alleviate, to the extent possible, public hardships which inevitably result from strikes.

Accordingly,

1. We delegate authority to the Director, Bureau of Pricing and Domestic Aviation to act for us on request by carriers for emergency exemption authority under section 416(b) to conduct operations for the transportation of persons, property, and mail, on routes certificated to United Air Lines for the duration of any work stoppage against United Air Lines beginning February 3, 1979;

2. In the abasence of a further order of the Board, all operating authority granted pursuant to this order of delegation shall expire upon settlement of the strike;

3. In the exercise of delegated authority the Director is authorized in his discretion to act before the receipt of answers, and petitions for review of decisions of the Director shall not stay the effective date thereof;

4. Communications subject to the procedures established herein may be made orally, but such applications shall be put into telegraphic or written form within 24 hours and, if in telegraphic form, shall be followed within 5 days with a written notice served in accordance with our rules of practice;

5. Any interested person objecting to any provision of this order shall file such objections with us within 5 days from the date of service of this order but the filing of objections shall not stay the effectiveness of this order;

6. This order may be amended or revoked at any time at our discretion; and

7. This order shall be served on all domestic air carriers.

This order shall be published in the FEDERAL REGISTER.

By the Civil Aeronautics Board:

PHYLLIS T. KAYLOR,
Secretary.

[FR Doc. 79-4570 Filed 2-8-79; 8:45 am]

[6320-01-M]

[Docket 33712]

TIGER INTERNATIONAL-SEABOARD WORLD AIRLINES, INC.

Acquisition Case; Continuation of Prehearing Conference

Notice is hereby given, pursuant to the provisions of the Federal Aviation Act of 1958, as amended, that the prehearing conference in the above-entitled matter, (44 FR 4749, January 23, 1979), will be continued to February 13, 1979, at 9:30 a.m. (local time) in Hearing Room 1003 B, 1875 Connecticut Avenue, N.W., Washington, D.C., before the undersigned Judge.

Dated at Washington, D.C., February 5, 1979.

JOHN J. MATHIAS,
Administrative Law Judge.

[FR Doc. 79-4508 Filed 2-8-79; 8:45 am]

[6320-01-M]

[Order 79-2-15; Dockets 33276, 33622, and 33720]

NATIONAL AIRLINES, INC., ET AL

Order Vacating Suspension

Adopted by the Civil Aeronautics Board at its office in Washington, D.C., on the 24th day of January, 1979.

Transatlantic fare increases proposed by: National Airlines, Inc., Pan American World Airways, Inc., Trans World Airlines, Inc., Deutsche Lufthansa Aktiengesellschaft, Societe Anonyme Belge d'Exploitation De La Navigation Aerienne, British Airways, British Caledonian Airways, Aerlinte Eireann Teoranta, Compagnie Nationale Air Franc, Scandinavian Airlines System, Swiss Air, and Transportes Aereos Portugueses.

By Orders 78-9-38, August 23, 1978, 78-10-61, October 5, 1978, and 78-10-143, October 20, 1978, the Board suspended and instituted investigations of normal economy fares representing increases of approximately five percent proposed by various carriers to the Netherlands, Belgium and the Federal Republic of Germany. The Board stated that it was suspending these fares because of the virtual absence of price competition, universal inclusion of generous allowances for facilities unrelated to direct point-to-point service, and lack of alternative "on demand" nonstop fares.

It is our policy—both domestically and internationally—to develop a system of air transportation that places principal reliance on actual and potential competition to determine the variety, quality and price of air services. The North Atlantic markets have not been conducive to a competitive regime, where greater opportunities would be available for airlines to compete freely and for travelers and shippers to avail themselves of low fares. With the signing of new liberal pro-competitive bilateral transportation agreements with the Netherlands, Belguim, and the Federal Republic of Germany, we have been able to grant exemptions to six U.S. airlines, giving them immediate new nonstop scheduled authority to the Netherlands, Belgium, and Germany. Thus, there is no reason to continue our temporary interference in the fare-setting process in those markets since we believe that the competitive forces that are rapidly coming into place, as well as those contemplated in the near term, will be adequate to protect the public interest. Therefore, we will vacate our previous actions suspending various normal economy fare increases proposed.

Accordingly, pursuant to sections 102, 204(a), 403, 801 and 1002(j) of the Federal Aviation Act of 1958, as amended,

1. We hereby vacate Order 78-9-38, Order 78-10-61, and Order 78-10-143 insofar as they suspend and investigate normal economy fare increases between the United States on the one hand and Belgium, the Netherlands and the Federal Republic of Germany on the other hand, as filed by Deutsche Lufthansa Aktiengesellschaft, Societe Anonyme Belge d'Exploitation de la Navigation Aerienne, Pan American World Airways, Inc., and Trans World Airlines, Inc.;

2. We shall submit this order to the President.[1]

3. We shall file copies of this order in Passenger Fares Tariff No. F-9, C.A.B. No. 37, issued by Trans World Airlines, Inc., and in Transatlantic Passenger Fares Tariff No. A-1, C.A.B. No. 71, issued by Air Tariffs Corporation, Agent, and serve copies upon National Airlines, Inc.; Pan American World Airways, Inc; Trans World Airlines, Inc.; Aerlinte Eireann Teoranta; British Airways Board carrying on business under the firm name and style of British Airways; British Caledonian Airways, Limited; Compagnie Nationale Air France; Deutsche Lufthansa Aktiengesellschaft; Scandinavian Airlines System; Societe Anonyme Belge d'Exploitation de la Navigation Aerienne; Swissair, Swiss Air Transport Company, Limited; and Transportes Aereos Portugueses, S.A.R.L.: and counsel for the Aviation Consumer Action Project.

We shall publish this order in the FEDERAL REGISTER.

By the Civil Aeronautics Board:

PHYLLIS T. KAYLOR,
Secretary.

[FR Doc. 79-4371 Filed 2-8-79; 8:45 am]

[6320-01-M]

PUROLATOR SKY COURIER, INC.

Application for an all-Cargo Air Service Certificate

FEBRUARY 2, 1979

In accordance with Part 291 (14 CFR 291) of the Board's Economic Regulations (effective November 9, 1978), notice is hereby given that the Civil Aeronautics Board has received an application, Docket 34124, from Purolator Sky Courier, Inc. of New Hyde Park, New York for an all-cargo air service certificate to provide domestic cargo transportation.

Under the provisions of § 291.12(2) of Part 291, interested persons may file an answer in opposition to this application on or before March 5, 1979. An executed original and six copies of such answer shall be addressed to the Docket Section, Civil Aeronautics Board, Washington, D.C. 20428. It shall set forth in detail the reasons for the position taken and must relate to the fitness, willingness, or ability of the applicant to provide all-cargo air service or to comply with the Act or the Board's orders and regulations. The answer shall be served upon the applicant and state the date of such service.

PHYLLIS T. KAYLOR,
Secretary.

[FR Docd. 79-4507 Filed 2-8-79; 8:45 am]

[3510-22-M]

DEPARTMENT OF COMMERCE

National Oceanic and Atmospheric Adminstration

MID-ATLANTIC FISHERY MANAGEMENT COUNCIL

Public Meeting

AGENCY: National Marine Fisheries Service, NOAA.

SUMMARY: The Mid-Atlantic Fishery Management Council, established by Section 302 of the Fishery Conservation and Management Act of 1976 (Public Law 94-265), will meet to discuss: (1) Surf Clam FMP; (2) Fluke FMP; (3) Shark FMP; (4) status of FMPs; and (5) other Administrative matters.

DATES: The meeting will convene on Wednesday, March 14, 1979, at 1:00 p.m. and will adjourn on Friday, March 16, 1979, at approximately 1:00 p.m. The meeting is open to the public.

ADDRESS: The meeting will take place at the Dutch Inn, 3845 Veterans Memorial Highway, Ronkonkoma, Long Island, New York 11779, (516) 585-9500.

FOR FURTHER INFORMATION CONTACT:

John C. Bryson, Executive Director, Mid-Atlantic Fishery Management Council, North and New Streets, Room 2115, Federal Building, Dover, Delaware 19901, Telephone: (302) 674-2331.

Dated: February 6, 1979.

WINFRED H. MEIBOHM,
Acting Executive Director, National Marine Fisheries Service.

[FR Doc. 79-4490 Filed 2-8-79; 8:45 am]

[3510-22-M]

NORTH PACIFIC FISHERY MANAGEMENT COUNCIL SCIENTIFIC AND STATISTICAL COMMITTEE AND ADVISORY PANEL

Public Meeting

AGENCY: National Marine Fisheries Service, NOAA.

SUMMARY: Pursuant to Section 10(a)(2) of the Federal Advisory Committee Act, 5, U.S.C., Appendix I, notice is hereby given of a joint meeting of the North Pacific Fishery Management Council, established by Section 302, and its Scientific and Statistical Committee (SSC), and its Advisory Panel (AP), established by Section 302(g), of the Fishery Conservation and Management Act of 1976 (Public Law 94-265), and separate meetings of the SSC and AP.

DATES: The SSC will meet separately on February 21 and 22, 1979, at 9:00 a.m. The AP will meet separately on February 21, 1979, at 9:00 a.m. The Council and its AP will meet jointly on February 22, and 23, 1979, at 8:30 a.m. The meetings will adjourn at approximately 5:00 p.m. depending upon progress on the agendas. The SSC may meet with the Council and AP on February 23, 1979, depending upon the progress of their agenda. The meetings are open to the public.

ADDRESS: On February 21, and 22, 1979, the SSC will meet in the Council Offices, Suite 32, 333 West 4th Avenue, Anchorage, Alaska. On February 21, 1979, the AP will meet at the Sheffield House Hotel, Windsor Room I, 720 West 5th Avenue, Anchorage, Alaska. On February 22 and 23, 1979, the Council and its AP will meet jointly at the Sheffield House Hotel, Windsor Rooms I and II, 720 West 5th Avenue, Anchorage, Alaska.

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[1] This order was submitted to the President on January 25, 1979.

FOR FURTHER INFORMATION CONTACT:

Jim H. Branson, Executive Director, North Pacific Fishery Management Council, P.O. Box 313DT, Anchorage, Alaska 99510, Telephone: (907) 274-4563.

SUPPLEMENTARY INFORMATION: For information on seating arrangements, changes to the agenda, and/or written comments, contact the Executive Director.

Proposed Agenda:

SCIENTIFIC AND STATISTICAL COMMITTEE

(1) Halibut bycatch considerations in longline and trawl fisheries in ghe Gulf of Alaska and Bering Sea/Aleutian Islands; (2) Bering Sea/Aleutian Islands draft FMP-primarily of the incidental catch of salmon in foreign trawals and the Aleutian Islands 3-12 mile management possibilities; (3) King Crab Management Strategy Report by Reeves and Marasco; (4) Regulatory and Statistical Areas—conceptual/tactical problems; (5) ADF&G Computerized Fishery Information System Contract—progress report; (6) State/Federal Cooperative Enforcement Agreement; (7) Alaska Borard of Fisheries Report; (8) U.S. Catcher/Processor data collection problems; (9) progress report from working group on Japanese Tanner Crab Strategy, etc., north of 58° N.; (10) other business; and (11) Incidental Species Report.

ADVISORY PANEL

(1) Consideration of the March 2, 1979, release of special joint venture reserves in the Gulf of Alaska; (2) Gulf of Alaska Groundfish FMP Amendments: (a) reconsider Japanese request to fish landward of 500 meters from 140° to 157° West longitude for cod; (b) reconsider the Davidson Bank foreign longline request; (c) consider increasing the Atka mackerel OY by 2,000 metric tons; (d) consider mechanism for the release of DAH to TALFF (or reserve) in Regulations. (3) consider Alaska Board of Fisheries proposals to the NPFMC: (4) status of halibut legislation; (5) consider joint venture permit applications (KMIDC and Marine Resources, Inc.); (6) catcher/processor information; and (7) report on the Shrimp Workshop in Kodiak.

COUNCIL

(1) Executive Director's Report and other Council Administrative business; (2) reports from SSC and AP; (3) progress report and update from the Council's Management Plan Development Teams; (4) review of foreign and U.S. fishing activities; (5) appoint two AP members; (6) consider and make recommendations concerning March 2, 1979, release of the second 25% of the reserves in the Gulf of Alaska FMP; (7) consider four amendments to the Gulf of Alaska FMP: (a) Japanese longliners request to fish landward of 500 meters between 140° and 157° West longitude for true cod; (b) proposal to increase the Atka mackerel OY by 2,000 metric tons in the Gulf of Alaska; (c) proposal to open the Davidson Bank to foreign longlining; (d) consideration of a mechnaism to release DAH to TALFF (or reserve) in the regulations. (8) consideration of proposals made by the Alaska Board of Fisheries to the Council dealing with: (a) Bering Sea foreign trawl closure; (b) Bering Sea domestic herring trawl closure; (c) high seas net fisheries; (d) troll salmon regulations. (9) other business; (10) Halibut regulations for 1979; (11) consideration of draft regulations for the troll salmon FMP; "High Seas Salmon Fishery Off the Coast of Alaska East of 175° East Longitude."; (12) Joint Venture Permit Applications from KMIDC and Marine Resources, Inc.; (13) consideration of U.S. catcher/processor information; (14) report on Shrimp Workshop in Kodiak; (15) presentation by Dr. D. L. Alverson on the projection of crab stocks; (16) Council research contracts; (17) Council review policy for foreign fishing permit applications; and (18) period for public comment.

Dated: February 6, 1979.

WINFRED H. MEIBOHM,
Acting Executive Director, National Marine Fisheries Service.

[FR Doc. 79-4439 Filed 2-8-79; 8:45 am]

[3510-08-M]

RHODE ISLAND COASTAL MANAGEMENT PROGRAM

Intent To Approve Amendment

Notice is hereby given of the intent by the Office of Coastal Zone Management (OCZM) to approve amendments to the Rhode Island Coastal Management Program by the addition of regulations to cover three areas:

1. Shorefront Access and Protection Regulations
2. Shoreline Erosion Mitigation Planning Regulations
3. Findings, Policies and Regulations on Energy

Interested parties have 30 days from the issuance of this notice to submit comments. If no serious disagreement of that action is raised during this comment period, the Assistant Administrator for Coastal Zone Management intends to give formal approval to these amendments. Comments should be addressed to: Dick O'Connor, Deputy North Atlantic Regional Manager, Office of Coastal Zone Management, 3300 Whitehaven Street, N.W., Washington, D.C. 20235.

A full text of the proposed amendments to the Rhode Island Coastal Management' Program has been distributed to all Federal agencies. Interested parties wishing to obtain copies of the amendments may request copies from OCZM at the above address.

Dated: January 30, 1979.

R. L. CARNAHAN,
Acting Assistant Administrator for Administration.

[FR Doc. 79-4414 Filed 2-8-79; 8:45 am]

[6820-33-M]

COMMITTEE FOR PURCHASE FROM THE BLIND AND OTHER SEVERELY HANDICAPPED

PROCUREMENT LIST 1979

Proposed Additions

AGENCY: Committee for Purchase from the Blind and Other Severely Handicapped.

ACTION: Proposed Additions to Procurement List.

SUMMARY: The Committee has received proposals to add to Procurement List 1979 commodities to be produced by workshops for the blind and other severely handicapped.

COMMENTS MUST BE RECEIVED ON OR BEFORE: March 14, 1979.

ADDRESS: Committee for Purchase from the Blind and Other Severely Handicapped, 2009 14th Street North, Suite 610, Arlington, Virginia 22201.

FOR FURTHER INFORMATION CONTACT:

C. W. Fletcher, (703) 557-1145.

SUPPLEMENTARY INFORMATION: This notice is published pursuant to 41 U.S.C. 47(a)(2), 85 Stat. 77.

If the Committee approves the proposed additions, all entities of the Federal Government will be required to procure the commodities listed below from workshops for the blind or other severely handicapped.

It is proposed to add the following commodities to Procurement List 1979, November 15, 1978 (43 FR 53151):

Class 7340

Flatware, Plastic (Picnic)
7340-00-205-3187
7340-00-205-3342
7340-00-170-8374

Class 7210

Tablecloth
7210-00-492-8381

C. W. FLETCHER,
Executive Director.

[FR Doc. 79-4494 Filed 2-8-79; 8:45 am]

[6355-01-M]

CONSUMER PRODUCT SAFETY COMMISSION

[CPSC Docket No. 79-1]

CONSUMER PRODUCT SAFETY ACT

Publication of Complaint: Aluminum Products Corp. and Roger P. Barraclough

Under provisions of its Rules of Practice for Adjudicative Proceedings (16 CFR 1025), the Commission must publish in the FEDERAL REGISTER complaints which it issues under the Consumer Product Safety Act.

Printed below is a Complaint in the matter of Aluminum Products Corporation and Roger P. Barraclough, individually and as an officer of the corporation.

In the matter of Aluminum Products Corporation, a corporation, and Roger P. Barraclough, individually and as an officer of the corporation; (CPSC Docket No. 79-1).

COMPLAINT

JURISDICTION

1. This proceeding is based on sections 14, 15, 19 and 20 of the Consumer Product Safety Act (CPSA) (15 U.S.C. 2063, 2064, 2068 and 2069) and is governed by 16 CFR Part 1025—Rules of Practice for Adjudicative Proceedings.

THE RESPONDENTS

2. Respondent Aluminum Products Corporation is a New Hampshire corporation with corporate offices at 19 Park Avenue, Clement Industrial Park, Hudson, New Hampshire 03051, and was incorporated July 3, 1974. (In response to a telephone inquiry on December 15, 1978, the New Hampshire Secretary of State reported that Aluminum Products Corporation was last in good standing on October 7, 1976, and that it is delinquent under New Hampshire law for the years 1977 and 1978.)

3. Respondent Roger P. Barraclough is president and chief executive officer of the respondent corporation. As such, he controls the acts, practices, and policies of the respondent corporation.

4. Whenever this complaint refers to any act of the respondents, the reference shall be deemed to mean that the directors, officers, employees or agents of the respondents authorized such act while actively engaged in the management, direction, or control of the affairs of the respondents and while acting within the scope of their employment or official duties.

THE CONSUMER PRODUCT

5. Respondents, between July 6 and August 26, 1977, "manufactured" for "distribution in commerce," as those terms are defined in sections 3(a)(8), (11) and (12) of the CPSA [15 U.S.C. 2052(a)(8), (11), and (12)], and distributed in commerce approximately 132 storm doors/combination doors made with or which incorporated architectural glazing materials.

6. The Safety Standard for Architectural Glazing Materials (Standard) 16 CFR Part 1201, effective July 6, 1977, is the consumer product safety standard that prescribes safety requirements for glazing materials used in certain architectural products, including storm doors or combination doors; and Part 1201 also requires that such architectural products which incorporate glazing materials be constructed with glazing materials that meet its requirements.

7. The approximately 132 storm doors/combination doors manufactured and distributed by the respondents are subject to the Standard pursuant to § 1201.1 thereof, and glazing materials contained in such storm doors/combination doors must meet the requirements of § 1201.3 of the Standard.

8. The respondents are "fabricators" and "manufacturers," as those terms are defined in § 1201.2(a)(8) and (16), of architectural products containing glazing materials subject to the Standard.

9. The storm doors/combination doors described in paragraphs five through light were manufactured and fabricated by the respondents for sale to or use by consumers in or around a permanent or temporary household or residence, a school, in recreation or otherwise, and are therefore "consumer products" as that term is defined in section 3(a)(1) of the CPSA [15 U.S.C. 2052(a)(1)].

COUNT I

THE SUBSTANTIAL PRODUCT HAZARD

10. Paragraphs one through nine are hereby realleged.

11. On August 22, 1977, a Commission investigator inspected the plant of the respondents who stated that, after July 6, 1977, they fabricated approximately 1,000 storm doors/combination doors and that an unknown number of those doors were constructed with noncomplying glazing materials and shipped to consignees in New Hampshire and Vermont. The investigator informed respondents that such doors fail to comply with the safety standard and that such failure would have to be corrected. The respondents also stated they received their glazing materials from two suppliers, each of which is located in Massachusetts.

12. During the inspection of respondents on August 22, 1977, the Commission investigator met with Ms. Marilyn Riccio, General Manager, Mr. Arthur Baily, Plant Manager, and Mr. Roger P. Barraclough, President and Treasurer, of the corporate respondent, Aluminum Products Corporation. These three persons represented themselves as the management of the corporate respondent, and they acknowledged becoming aware of the Architectural Glazing Material Standard prior to its effective date, July 6, 1977.

13. At a follow-up inspection on September 29, 1977, a search of the respondents' records by the investigator disclosed that respondents fabricated a total of approximately 271 doors between July 6 and August 26, 1977, of which approximately 132 doors were constructed with noncomplying glazing materials and shipped to 51 consignees in New Hampshire. Respondent Barraclough contended that his firm could not absorb the total cost of replacing glazing material for the approximately 132 doors and that such cost must be borne by the consignee and ultimately by the consumer.

14. By letter of December 8, 1977, the Product Defect Correction Division of the Commission's Directorate for Compliance and Enforcement opened a case in the name of respondent Aluminum Products Corporation, CPSC AG 78-1, and (1) advised the respondent of a tentative evaluation that its storm/combination doors failed to comply with a consumer product safety rule and may present a substantial product hazard and (2) requested respondent corporation to adequately inform the Commission of such failure to comply, together with furnishing details of a corrective action plan.

15. In its reply of December 28, 1977, respondent corporation represented that it had started a corrective action plan and would complete it as soon as possible, but the respondent failed to state the method and details of the plan used to notify customers and consumers and failed to state whether refund, replacement, or repair would be made.

16. By letter to respondents dated January 11, 1978, the Product Defect Correction Division requested the following information and documents by January 25, 1978: (1) details of their corrective action program, (2) whether the program allowed for free replacement of noncomplying products, (3) how they inteded to notify the distribution chain and end users of the products, (4) samples of correspondence to each level in the distribution chain, and (5) copies of notification letters to retailers informing them to stop sale of noncomplying products.

17. Thereafter, the Directorate for Compliance and Enforcement through its Product Defect Correction Division and Division of Enforcement made repeated attempts by telephone and correspondence to obtain sufficient information from the respondents to verify that adequate corrective action had been taken including notification to distributors and consumers, and repair or replacement of noncomplying glazing or refund of the purchase price. To date, respondents have not furnished such information and have not carried out an adequate corrective action plan.

18. On June 26, 1978, the Commission laboratory tested the glazing material incorporated in one of the approximately 132 allegedly noncomplying storm doors/combination doors fabricated by the respondents between July 6 and August 26, 1977, but the test was not completed in accordance with the requirements of the Standard. On October 16, 1978, the laboratory completed its testing of the glazing material incorporated in another of the approximately 132 doors, and the test results showed that glazing material did not meet the requirement of the Standard. The test report is attached to the "List and Summary of Documentary Evidence Supporting the Complaint" which accompanies this Complaint.

19. The glazing material incorporated by the respondents in the storm door/combination door tested on October 16, 1978, and the other approximately 131 storm doors/combination doors do not fall within the exceptions contained in § 1201.7 and it is not a product, material or use exempted from the Standard by § 1201.7(b).

20. Therefore, between July 6 and August 26, 1977, respondents manufactured and distributed in commerce architectural products subject to the requirements of the Standard, namely approximately 132 storm

doors/combination doors. Such architectural products products incorporated glazing materials which failed to comply with the safety requirements prescribed by 16 CFR 1201, the Safety Standard for Architectural Glazing Materials.

21. Those safety requirements are designed to reduce or eliminate unreasonable risks of death or serious injury to consumers when glazing material is broken by human contact.

22. The findings of the Commission as to the degree and nature of the risks of injury that this Standard is designed to eliminate or reduce are contained in 16 CFR 1201.1(d) which is incorporated herein by reference and is attached to the "List and Summary of Documentary Evidence Supporting the Complaint" which accompanies this Complaint.

23. The failure of the respondents' architectural products to comply with such Standard creates a substantial risk of injury to the public, and those products present a substantial hazard within the meaning of seciton 15(a)(1) of the CPSA [15 U.S.C. 2064 (a)(1)].

COUNT II

FAILURE TO COMPLY WITH SAFETY STANDARD

24. Paragraphs one through twenty-three are hereby realleged.

25. Between July 6 and August 26, 1977, respondents manufactured and distributed in commerce architectural products, approximately 132 storm doors/combination doors which incorporated glazing materials which failed to comply with the safety requirements prescribed by 16 CFR 1201, the Safety Standard for Architectural Glazing Materials.

26. Respondents, while being aware of the Standard, manufactured for sale and distributed in commerce consumer products which are not in conformity with the applicable consumer product safety standard, 16 CFR 1201, and therefore knowingly committed acts prohibited by section 19(a)(1) of the CPSA [15 U.S.C. 2068(a)(1)].

COUNT III

FAILURE TO INFORM

27. Paragraphs one through twenty-six are hereby realleged.

28. Between July 6 and August 26, 1977, respondents manufactured and distributed in commerce architectural products, approximately 132 storm doors/combination doors, constructed with glazing materials that did not meet the requirements of the applicable consumer product safety standard, 16 CFR 1201.

29. Respondents failed to inform the Commission of such failure to comply as required by section 15(b) of the CPSA 15 U.S.C. 2064(b).

30. By failing to inform the Commission when they obtained, or could have obtained upon the exercise of due care, information which reasonably supported the conclusion that such storm doors/combination doors failed to comply with the applicable consumer product safety standard of which they were aware, respondents knowingly committed a prohibited act under section 19(a)(4) of the CPSA 15 U.S.C. 2068(a)(4).

COUNT IV

FAILURE TO CERTIFY

31. Paragraphs one through thirty are hereby realleged.

32. Between July 6 and August 26, 1977, respondents manufactured and distributed in commerce architectural products, storm doors/combination doors, which were subject to a consumer product safety standard, 16 CFR 1201.

33. The respondents did not issue a certificate that certified that such architectural products conform to the applicable consumer product safety standard, Safety Standard for Architectural Glazing Materials, and the respondents did not furnish such a certificate to the distributors and retailers to whom such products were delivered.

34. Respondents therefore failed to furnish to their distributors and retailers a certificate required by section 14(a) of the CPSA [15 U.S.C. 2063(a)].

35. By failing to furnish to their distributors and retailers a certificate of conformity required by section 14(a), while being aware of the Architectural Glazing Material Standard and subject to the Consumer Product Safety Act, respondents knowingly committed a prohibited act under section 19(a)(6) of the CPSA [15 U.S.C. 2068(a)(6)].

RELIEF SOUGHT

Wherefore, the staff of the Consumer Product Safety Commission believes that the following relief is in the public interest and requests that the Commission, after affording interested persons an opportunity for a hearing:

1. Determine that respondents' storm doors/combination doors, described in paragraphs five through nine above, fail to comply with an applicable consumer product safety standard, create a substantial risk of injury to the public, and present a "substantial product hazard" within the meaning of section 15(a)(1) of the CPSA [15 U.S.C. 2064(a)(1)].

2. Determine that notification under section 15(c) of the CPSA [15 U.S.C. 2064(c)] is required to adequately protect the public from the substantial product hazard presented by such storm doors/combination doors which have been distributed and order that respondents:

(a) Give public notice of the failure of such storm doors/combination doors to comply with the Standard including the purchase, if necessary, of newspaper space and/or broadcast time; and

(b) Mail notice of such failure to comply to each person who is a distributor or retailer of such storm doors/combination doors and endeavor to determine the identity of the end-users of such storm doors/combination doors; and

(c) Mail notice of such failure to comply to every end-user to whom respondents learn such storm doors/combination doors were delivered or sold.

3. Determine that action under section 15(d) of the CPSA [15 U.S.C. 2064(d)] is in the public interest and order respondents to cease the manufacture for sale, offering for sale and distribution in commerce of products which gave rise to the Complaint in this matter, and to elect and take one of the following actions with respect to the storm doors/combination doors which have been distributed or sold:

(a) Bring the storm doors/combination doors into conformity with the requirements of the Standard; or

(b) Replace each storm door/combination door with a like or equivalent product which complies with the Standard; or

(c) Refund the purchase price of the storm doors/combination doors less a reasonable allowance for use.

4. Require respondents to make the elections required and order that within ten (10) days of service of the Commission's Order, respondents submit a plan, satisfactory to the Commission, for taking whichever actions outlined in paragraph 3 that they elect.

5. Determine that reimbursement of expenses incurred in connection with carrying out the Commission Order issued in this case under sections 15(c) and (d) [15 U.S.C. 2064(c) and (d)] is in the public interest and require the respondents to reimburse any distributors, retailers or end-users of the storm doors for their expenses in connection with carrying out the Commission Order.

6. Pursuant to section 20(a) of the CPSA [15 U.S.C. 2069(a)], assess a civil penalty in the amount of $15,000 against the respondents for knowingly violating:

(a) Section 19(a)(1) of the CPSA [15 U.S.C. 2068(a)(1)] by manufacturing and distributing in commerce consumer products which are not in conformity with the Safety Standard for Architectural Glazing Materials, as alleged in Count II;

(b) Section 19(a)(4) of the CPSA [15 U.S.C. 2068(a)(4)] by failing to furnish information required by section 15(b) of the CPSA [15 U.S.C. 2064(b)], as alleged in Count III; and

(c) Section 19(a)(6) of the CPSA [15 U.S.C. 2068(a)(6)] by failing to furnish a certificate required by section 14 of the CPSA [15 U.S.C. 2063], as alleged in Count IV.

7. Grant such other and further relief as the Commission deems necessary to protect the public health and safety and to implement the CPSA.

Issued by order of the Commission.

Dated: February 5, 1979.

SADYE DUNN,
Secretary, Consumer Product Safety Commission.

[FR Doc. 79-4434 Filed 2-8-79; 8:45 am]

[3810-70-M]

DEPARTMENT OF DEFENSE

Office of the Secretary

DEFENSE INTELLIGENCE AGENCY ADVISORY COMMITTEE

Closed Meeting

Pursuant to the provisions of Subsection (d) of Section 10 of Pub. L. 92-463, as amended by Section 5 of Pub. L. 94-409, notice is hereby given that a closed meeting of a Panel of the DIA Advisory Committee will be held as follows:

Thursday & Friday, 8-9 March 1979, Pomponio Plaza, Rosslyn, VA. The entire meeting, commencing at 0900 hours is devoted to the discussion of classfied information as defined in Section 552b(c)(1), Title 5 of the U.S. Code and therfore will be closed to the public. Subject matter will be used in a study on current and projected DOD HUMINT collection activities.

Maurice W. Roche,
Director, Correspondence and Directives, Washington Headquarters Services, Department of Defense.

February 6, 1979.

[FR Doc. 79-4491 Filed 2-8-79; 8:45 am]

[3810-70-M]

DEFENSE SCIENCE BOARD TASK FORCE ON STRATEGIC PLANNING EXPERIMENT IN THE MARITIME BALANCE AREA

Advisory Committee Meeting

The Defense Science Board Task Force on Strategic Planning Experiment in the Maritime Balance Area will meet in closed session on 5 March 1979 in Arlington, Virginia.

The mission of the Defense Science Board is to advise the Secretary of Defense and the Under Secretary of Defense for Research and Engineering on scientific and technical matters as they affect the perceived needs of the Department of Defense.

A meeting of the Task Force on Strategic Planning Experiment in the Maritime Balance Area has been scheduled for 5 March 1979 to discuss the conduct of an experiment in applying business policy/strategic planning concepts to the development of a competitive strategy for the Maritime Balance Area. The Task Force and its associated Navy Study Group will focus on the long term competition between the U.S. and the Soviet Union in the maritime area.

In accordance with 5 U.S.C. App. I § 10(d)(1976), it has been determined that this Defense Science Board Task Force meeting concerns matters listed in 5 U.S.C. 552b(c)(1)(1976), and that accordingly this meeting will be closed to the public.

Maurice W. Roche,
Director, Correspondence and Directives, DOD/WHS.

February 6, 1979.

[FR Doc. 79-4492 Filed 2-8-79; 8:45 am]

[6450-01-M]

DEPARTMENT OF ENERGY

Southeastern Power Administration

INTENT TO REVISE RATES AND CHARGES

AGENCY: Southeastern Power Administration (SEPA), Department of Energy.

ACTION: Proposed rate revision.

SUMMARY: SEPA proposes to replace the existing schedule of short-term rates and charges for Laurel Project power with long-term rates and charges for an effective period May 1, 1979, through June 30, 1983. The proposed rates and charges will result in an increase of approximately 6½ percent over existing short-term rates. Interested persons are invited to submit written comments and/or attend a public comment forum which will be held to permit an opportunity to present views, data, or arguments in oral and/or written form regarding the proposed rates.

DATES: Written comments are due on or before March 5, 1979. The public comment forum will be held in Lexington, Kentucky, on February 28, 1979.

ADDRESSES: Five copies of written comments should be submitted to the Administrator, Southeastern Power Administration, Department of Energy, Samuel Elbert Building, Elberton, Ga. 30635. The public comment forum will be held beginning at 10:00 a.m., February 28, 1979, in the Red Mile Room at the Ramada Inn North, Lexington, Ky. 40505.

FOR FURTHER INFORMATION CONTACT:

Mr. Curtis H. Bell, Southeastern Power Administration, Department of Energy, Samuel Elbert Building, Elberton, Ga. 30635, 404-283-3261.

SUPPLEMENTARY INFORMATION: SEPA proposes to enter into an arrangement whereby the entire output of the Laurel Project is sold at the project bus to East Kentucky Power Cooperative, Inc. (EK) for a period ending June 30, 1983. An integral part of the arrangement will be EK's consent to a withdrawal by SEPA upon reasonable notice of up to 25,000 kilowatts of peaking capacity and associated peaking energy from the Cumberland Projects which EK presently purchases from SEPA. Such withdrawn power shall thereby become available to SEPA for sale to the Kentucky municipalities of Barbourville, Bardstown, Benham, Corbin, Falmouth, Frankfort, Nicholasville and Paris.

The increase in long-term rates and charges results from actual project costs, operation and maintenance expenses and replacement costs being higher than estimates which were used when the short-term rates and charges were developed.

It is proposed that the rate schedule will contain the following monthly unit rates:

Proposed Unit Rates

Capacity/kw	$1.37
Energy/kwh (mills)	4.20

Copies of the proposed rate schedule are available upon request. The project repayment study together with other supportive information used in developing the proposed rates are available for inspection and/or copying at SEPA headquarters' offices.

Additionally, a finding has been made that the proposed arrangement and revised rates and charges will not have a significant effect upon the quality of the human environment. The finding is likewise available for inspection and/or copying at SEPA headquarters.

The public comment forum will not be adjudicative in nature. A SEPA designated official will preside and SEPA representatives will give background information supporting the proposed rates and charges and answer questions relevant thereto. Those making oral presentations may be questioned by the presiding official and other participating SEPA representatives. Any further procedural rules needed for the proper conduct of the meeting will be announced prior to the forum by the presiding official. Forum proceedings will be transcribed. The public comment forum record together with any other written comments received will be available for inspection and/or copying at SEPA headquarters' offices in Elberton, Ga., between the hours of 8:00 a.m. and 5:00 p.m., Monday through Friday.

Issued in Elberton, Ga., January 26, 1979.

Harry F. Wright,
Administrator.

[FR Doc. 79-4611 Filed 2-8-79; 8:45 am]

[6450-01-M]

BRIEFING ON SECOND PHASE OF DEPARTMENT OF ENERGY COMMERCIALIZATION PROGRAM

Notice of Public Meeting; Announcement of Location

The Department of Energy hereby gives notice that a public meeting will be held at which the second group of technologies being prepared for commercialization will be described. The meeting will be held in Washington, D.C. on February 14, 1979, from 9 a.m. to approximately 10 a.m., in Room 5A-092 of the Forrestal Building (1000 Independence Avenue, S.W.).

These technologies will be briefly described in concept papers. Concept papers are preliminary descriptions of the technology based on "at hand" information on the state-of-the-art and early economic evaluations. At a later date, approximately three months, more detailed information will be available.

These concept papers will be available at the meeting. Persons wishing copies of the concept papers should contact:

Carolyn C. Kenmore, U.S. Department of Energy, 1000 Independence Avenue, S.W., Room 8G-031, Washington, D.C. 20585 (202) 252-6261.

Issued this day February 7, 1979 in Washington, D.C.

Phillip S. Hughes,
Assistant Secretary
Intergovernmental
and Institutional Relations.

[FR Doc. 79-4674 Filed 2-8-79; 11:32 am]

[6560-01-M]

ENVIRONMENTAL PROTECTION AGENCY

[FRL 1058-3]

AMBIENT AIR MONITORING REFERENCE AND EQUIVALENT METHODS

Amendment to Reference Method for NO_2

Notice is hereby given that EPA, in accordance with 40 CFR Part 53 (40 FR 7044, February 18, 1975), has approved an additional option for NO_2 reference method number RFNA-1078-031 (Federal Register, Vol. 43, page 50733, October 31, 1978). While the designation number of the method remains the same, the method identification is amended to read as follows:

RFNA-1078-031, "Meloy Model NA53OR Nitrogen Oxides Analyzer," operated on the following ranges and time constant swith positions:

Range, ppm	Time constant setting
0-0.1	4
0-0.25	3 or 4
0-0.5	2, 3, or 4
0-1.0	2, 3, or 4

Operation of the analyzer an external vacuum pump, either Meloy Option N-10 or an equivalent pump capable of maintaining a vacuum of 200 torr (22 inches mercury vacuum) or better at the pump connection at the specified sample and ozone-air flowrates of 1200 and 200 cm^3/min, respectively. The analyzer may be operated at temperatures between 10° and 40° C and at line voltages between 105 and 130 volts, with or without any of the following options:

N-1A Automatic zero and span.
N-2 Vacuum gauge.
N-4 Digital panel meter.
N-6 Remote control for zero and span.
N-6B Remote zero/span control and status (pulse).
N-6C Remote zero/span control and status (timer).
N-9 Manual zero/span.
N-10 Vacuum pump assembly (see alternate requirement above).
N-11 Auto ranging.
N-14B Line transmitter.
N-18 Rack mount conversion.
N-18A Rack mount conversion.

Note: Users should be aware that designation of ranges less than 0.5 ppm (500 ppb) are based on meeting the same absolute performace specifications required for the 0-0.5 ppm (0-500 ppb) range. EPA is considering—but has not yet established—proportionately more restrictive performance specifications applicable to ranges less than 0-0.5 ppm (500 ppb). Thus, designation of these lower ranges does not guarantee commensurably better performance than that obtained on the 0-0.5 ppm (0-500 ppb) range.

The method is available from Meloy Laboratories, Inc., Instruments and Systems Division, 6715 Electronic Drive, Springfield, Va. 22151.

This change is made in accordance with 40 CFR 53.14, based on additional information submitted by the applicant subsequent to the original designation (43 FR 50733, October 31, 1978). As a reference method, this method is acceptable for use by States and other control agencies for purposes of § 51.17(a) of 40 CFR Part 51 ("Requirements for Preparation, Adoption, and Submittal of Implementation Plans") as amended on February 18, 1975 (40 FR 7042).

Additional information concerning the use of this designated method may be obtained from the original Notice of Designation (43 FR 50733) or by writing to: Director, Environmental Monitoring and Support Laboratory, Department E (MD-77), U.S. Environmental Protection Agency, Research Triangle Park, N.C. 27711. Technical questions concerning the method should be directed to the manufacturer.

Dated: February 6, 1979.

Stephen J. Gage,
Assistant Administrator for
Research and Development.

[FR Doc. 79-4554 Filed 2-8-79; 8:45 am]

[6560-01-M]

[FRL 1058-2]

LAS VIRGENES-TRIUNFO/MALIBU-TOPANGA AREAWIDE FACILITIES

Intent To Prepare an Environmental Impact Statement

To All Interested Government Agencies, Public Groups and Concerned Citizens:

In accordance with the Environmental Protection Agency's guidelines for the preparation of Environmental Impact Statements and in compliance with the National Environmental Policy Act of 1969 (Pub. L. 91-190), the following constitutes a Notice of Intent to prepare such a statement for the proposed agency action specified below.

The project has been addressed previously in a Draft EIS for the Las Virgenes-Triunfo/Malibu-Topanga Areawide Facilities Plan of September, 1976. A final EIS for the solids handling element of the project was published in September, 1977. The remaining issue is effluent disposal. EPA proposes to publish a draft addendum EIS to consider a new effluent disposal alternative as follows:

AGENCY: Las Virgenes Municipal Water District.

ACTION: EPA grant assistance for the planning, design, and construction of an effluent disposal system that will ensure attainment of water quality and health standards.

PROJECT LOCATION: This Environmental Impact Statement (EIS) shall study four subareas in a regional context. These areas are the Las Virgenes Municipal Water District (LVMWD) service area, the Triunfo County Sanitation District (TCSD) service area, Coastal Malibu, and Topanga. Coastal Malibu extends from the Ventura County boundary on the northwest to the Los Angeles city limits on the southeast. Topanga consists of the Topanga Canyon and Tuna Canyon coastal drainage basins. A major portion of the Santa Monica mountains has remained in its natural state, as development has been constrained due to steep slopes and unstable geologic conditions.

PURPOSE: The major new alternative to be investigated is the year-round effluent discharge into Malibu Creek. Other alternatives for effluent disposal are described in the draft EIS, September 1976.

The draft addendum EIS will also analyze the secondary impacts of the various project proposals as set forth in the draft EIS in terms of air quality, noise levels, potential growth inducement, demands on public services, and overall environmental quality. The draft addendum EIS will recommend an alternative which protects the physical environment. Important environmental consideration include protection of human health, air and water quality, and land use.

Issues within the project area are as follows:

(a) the impact of treated wastewater discharged by the Tapia Reclamation Facility on the water quality of Malibu Creek,

(b) the use of reclaimed wastewater for landscape irrigation, and

(c) the potentially adverse air quality impacts associated with the population growth accommodated by the project.

The draft addendum EIS will describe in detail the public comment and evaluation process, and will indicate the alternatives preferred by affected Federal, State, and local agencies, and other interested parties. It will also discuss alternative mitigation measures needed to offset any adverse environmental impacts identified with the project, and to ensure that environmental constraints are adequately incorporated into the decision-making process. The final EIS on effluent disposal will describe the selected alternative and adopted mitigation measures, and will respond to those concerns raised during public review of the draft addendum EIS.

The draft addendum EIS is anticipated to be completed in early 1980. Public hearings on this document will be held after a public review period of at least 30 days. A final EIS for effluent disposal is expected by December, 1980.

ESTIMATED PROJECT COSTS: The estimated costs for planning, design, and construction will be between $5 and $18 million, depending on the selected alternative. The Federal share under section 202 of the Federal Water Pollution Control Act Amendments of 1977 (Pub. L. 95-217), will be 75% of the eligible project costs. The State of California will provide 12½% of the eligible project costs pursuant to the California Clean Water Bond Law of 1978. The Las Virgenes Municipal Water District will be responsible for providing the remaining 12½% of the project costs.

PUBLIC PARTICIPATION: It is EPA's policy to encourage public involvement in the development of the EIS. The public's involvement is essential in the final selection of a project most compatible with local needs and EPA policy. EPA encourages interested parties to participate in the Citizen's Advisory Committee (CAC). The CAC's role is to actively advise and participate in the development of the EIS. A public hearing to inform all interested persons of the formation of the CAC will be held in February, 1979. Persons interested in participating in the CAC should contact Palma Strand, 215 Fremont Street, (W-3), San Francisco, California 94105, (415) 556-8038.

Dated: January 23, 1979.

FRANK M. COVINGTON,
Acting Regional Administrator, Region IX.

[FR Doc. 79-4556 Filed 2-8-79; 8:45 am]

[6560-01-M]

[FRL 1058-1]

SOLID WASTE DISPOSAL PRACTICES

Availability of study on Coal-Utilities

AGENCY: United States Environmental Protection Agency (EPA)

ACTION: Notice of Availability of draft report on coal-fired utility waste.

SUMMARY EPA is today making available to the public a draft study entitled "Study of Non-Hazardous Wastes from Coal-Fired Electric Utilities" prepared by the Radian Corporation. The study includes a characterization of the electric industry and the solid waste generated by it, a description of current and projected disposal practices, an estimate of the cost impact of the criteria proposed by EPA under Section 4004 of the Resource Conservation and Recovery Act and an assessment of alternate technologies and resource recovery practices applicable to utility waste

dThe reports are in draft form and have not ben approved by EPA. Copies of the study are available for public inspection and copying at the EPA library, Room 2404, 401 M Street, S.W., Washington, D.C. and at all EPA Regional Office libraries.

DATE: Public comments on the accuracy of the studies are due March 12, 1979.

ADDRESS: All comments should be addressed to Janet L. Auerbach, Office of Solid Waste (WH-564), U.S. Environmental Protection Agency, 401 M Street, S.W., Washington, D.C. 20460.

FOR FURTHER INFORMATION CONTACT:

Janet L. Auerbach at the above address (202-755-9120).

DATED: February 5, 1979.

THOMAS C. JORLING,
Assistant Administrator for Water and Waste Management.

[FR Doc. 79-4555 Filed 2-8-79; 8:45 am]

[6712-01-M]

FEDERAL COMMUNICATIONS COMMISSION

[Docket No. 21256; FCC 79-41]

JAMES M. CARPENTER AND MIRIAM G. CARPENTER d.b.a. CARPENTER RADIO CO.

Memorandum Opinion and Order

Adopted: January 25, 1979.

Released: February 8, 1979.

By the Commission: 1. The Commission has before it five separate sets of pleadings filed in this proceeding by the parties Carpenter Radio Company (Carpenter) and United Telephone Company of Ohio (United), as well as comments from the Trial Staff of the Common Carrier Bureau (Trial Staff). Carpenter initially requested Commission relief in 1967, when it was alleged that Lima Telephone Company of Ohio would not interconnect with Carpenter's mobile radio-telephone business and Docket No. 18177 was instituted, 12 F.C.C. 2d 857. When Lima Telephone Company became a part of United, United agreed to interconnect with Carpenter and Docket No. 18177 was dismissed without prejudice, 14 F.C.C. 2d 570 (1968). After a breakdown in negotiations between Carpenter and United, on the terms and conditions of interconnection, Carpenter again filed a formal complaint concerning the service which United provided and the Commission instituted this proceeding in May 1977, 64 F.C.C. 2d 894 (*Designation Order*). In the pleadings before us we have a request to enlarge the issues, to clarify and/or modify the issues, to stay execution of a state court judgment, and two formal complaints containing allegedly new matters. Each set of pleadings will be considered separately.

I. ENLARGEMENT OF ISSUES

2. Carpenter seeks to enlarge the issues set forth in our *Designation Order* to include an inquiry into certain alleged antitrust violations by United. United has filed an opposition, Carpenter a reply, and the Trial Staff has submitted comments. For the most part, Carpenter's motion is vague and contains much irrelevant matter. The only claims which could reasonably be interpreted to relate to Carpenter's request to include an antitrust issue are that:

(1) United has still not effectively interconnected its facilities with Carpenter's; and

(2) United has exerted its influence on various third persons, e.g. supplier, city officials, and local news media, to take actions calculated to cause Carpenter to go out of business.

United argues that Carpenter's motion is untimely, that it fails to state which antitrust issues it wishes to have included in this proceeding, and that, in any event, statutes of limitation, e.g., 15 U.S.C. Section 15(b) and 47 U.S.C. Section 415(b), prevent any antitrust issues from being raised now.

3. We first note that Carpenter's motion was not filed within the time permitted by our Rules. Our *Designation Order* was published June 3, 1977, 42 FR 28577, and this motion was filed August 4, 1977. § 1.229(b) of our Rules, 47 CFR § 1.229(b), requires that any such motion be filed within 15 days of publication unless the party shows good cause for the delay. Carpenter claims as good cause for the delay that he was acting *pro se*, that he was not aware of the rule, and that no one is prejudiced by the delay. We do not consider this to be sufficient cause in itself. Nonetheless, while we do not believe that Carpenter should be excused from general compliance with

the Rules, we do recognize that he has been appearing in this case without counsel and has attempted to make a showing of good cause. Therefore, we will in this instance rule on his motion.[1] Carpenter requests that our investigation include consideration of antitrust issues and attempts to show by this motion that various antitrust violations have occurred since the dismissal of Docket No. 18177. While this Commission does not have prime responsibility for enforcement of the antitrust laws, it is well established that we consider antitrust matters within the context of determining what may best serve the public interest. *See, e.g., Carpenter Radio Co.*, 13 F.C.C. 2d 722, 723 (1968). Accordingly, the presiding Judge may consider Carpenter's allegations to the extent relevant (making any necessary rulings on the specifically of allegations or applicability of the statutes of limitation) in determining what course of action will serve the public interest. It is unnecessary to amend our *Designation Order* to accomplish this result. The Trial Staff, in its comments, points out correctly that any antitrust question is subsumed in the already existing issues. The "public interest" language of Section 201(a) of the Act, as used in para. 9(a) of our *Designation Order*, must be interpreted to include any alleged anticompetitive aspects of United's conduct toward Carpenter as it may relate to interconnection.[2] This is in line with our previous holding on the same question in Docket No. 18177, 13 F.C.C. 2d 722, 723 (1968).

4. Carpenter also raises two other factual allegations, calling them "complaints," in his motion to enlarge issues. The first allegation claims that United has impaired Carpenter's service by disconnecting one of Carpenter's customer's lines for over twenty-four hours. The second allegation claims that United is engaging in discriminatory practices by awarding certain undescribed contracts only to members of the National Association of Radiotelephone Systems and not to other non-member carriers such as Carpenter. Although it is not totally clear why Carpenter raises these allegations in his motion to enlarge issues, they may be considered by the Judge to the extent they are relevant to the issue of reasonable interconnection. However, if in making these allegations, Carpenter is attempting to file a formal complaint regarding such matters, he must comply with our Rules governing this procedure. *See* Part I, Subpart E of our Rules, 47 CFR 1.711 *et seq.*

II. Petition for Clarification and/or Modification of Issues

5. United filed a petition to clarify or modify the issues on August 5, 1977, over two months after our *Designation Order* was published. The petition makes a number of requests, all of which essentially attempt to restrict the scope of the proceeding. Carpenter filed an opposition and the Trial Staff submitted comments. Section 1.229 of our Rules requires that for such an untimely motion to be considered on the merits, there must be a showing of either good cause for the delay or that it raises a question of decisional significance and such substantial public interest importance to warrant consideration despite its untimely filing. United has made no attempt to show good cause for the delay. Nor do we find that this petition raises questions of decisional significance and substantial public interest importance.[3] Accordingly, we shall dismiss the pleading.

III. Petition for Emergency Interim Relief

6. Carpenter filed this petition on September 28, 1977, requesting that the Commission prevent United from enforcing a judgment it acquired in an Ohio state court against Carpenter for telephone service rendered, but for which payment was not made. He then filed a supplement to this petition on October 17, 1977, stating that he had paid this judgment but requested that we still require United to cease and desist further litigation, until termination of this docket, because United had "again threatened to bring further legal action." Carpenter claims that the telephone charges are unreasonable and that it will destroy his business if he must continue to pay them. Since Carpenter has already paid the original court judgment (as he must as set forth below), his original petition must be considered moot. While the supplemental petition is sketchy and vague, we assume that the "further legal action" Carpenter alludes to must relate to possible suits United may subsequently bring to collect charges for telephone service since the date of the last judgment. If that is the case, under Section 203(c) of the Act,[4] we should note that a customer has a legal obligation to pay all tariffed rates for telecommunications services (or charges properly incorporated by reference, as here) until such time as these rates are found unlawful by the Commission or a court of competent jurisdiction. *Bell Telephone Co. of Pennsylvania*, 66 F.C.C. 2d 227, 229 (1977); *MCI Telecommunications Corp.*, 62 F.C.C. 2d 703, 705-06 (1976).

IV. Formal Complaints

7. Carpenter has also filed two pleadings, styled as "formal complaints" in this docket. In the first, filed June 29, 1977, Carpenter alleges, among other things, that United is "harrassing" him in a number of ways, such as initiating litigation against him in various forums, producing static on his telephone lines, and causing disconnect problems. Carpenter therfore requests that we order United to cease this alleged "harrassment." Carpenter's second "formal compliant," filed July 7, 1977, requests that we "force United to serve the public interest." Carpenter alleges that a number of events have occurred which show that United has not served the public interest. In one incident, Carpenter claims, one of his customers tried to place a long distance call from a mobile telephone unit and allegedly could not get "cooperation" from the United telephone operator. In another incident, Carpenter claims that he tried to call the United telephone repair service and that the telephone rang 30 times and was not answered. Carpenter alleges other incidents but it is unclear from his pleadings what the factual circumstances are. We assume these pleadings are intended to be formal complaints as contemplated under Section 208 of the Act, 47 U.S.C. 208, and not an evidentiary submission for the present proceeding.[5] Assuming they were intended to be formal complaints, we find that the facts are not alleged in sufficient detail to allow us to under-

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[1] However, we will expect Carpenter in the future to be knowledgeable and comply with our procedural rules.

[2] Para. 9(a) of the Order sets out the first issue which states:

> Whether it is necessary or desirable in the *public interest* to establish physical connections between the Carpenter Radio Company and the United Telephone Company of Ohio at Lima, Ohio; to establish through routes and charges applicable thereto; and to establish and provide facilities and regulations for operating such through routes within the meaning of Section 201(a) of the Communications Act of 1934, *as amended*, 47 U.S.C. § 201(a); and, if so what connections, through routes, charges, facilities and regulations should be established. (Emphasis added.)

[3] Basically, United seeks to prevent an inquiry into the lawfulness of its charges for interconnection and the quality of interconnection by making questionable interpretations of Section 201 and prior Commission orders and decisions. United's interpretations and requests, if granted, would frustrate the purpose underlying the designation of this proceeding. Moreover, the types of requests made are, we believe, within the discretion of the Judge to initially consider, subject to certification to the Commission where appropriate. See para. 8, *infra*.

[4] Section 203(c), 47 U.S.C. § 203(c), states, in relevant part, that "no carrier shall (1) charge, demand, collect, or receive a greater or less or different compensation . . . than the charges specified in the schedule then in effect * * *."

[5] If indeed they were intended as evidentiary submissions, they should be properly entered into the evidentiary proceeding before the presiding officer and not submitted to the Commission.

stand the nature of the complaint or what provisions of the Act Carpenter believes have been violated, nor is the relief requested sufficiently specific to allow us to know precisely what action Carpenter requests we take. Therefore, we will dismiss these complaints for not complying with §§ 1.722 of our Rules, 47 CFR 1.722, which requires that a formal complaint advise the Commission fully about which provision of the Act, Rules, or Commission order has been violated and the facts claimed to constitute such violation.

V. CONCLUSION

8. We realize that all the above pleadings were addressed to the Commission. However, as noted earlier, we believe the pleadings filed by Carpenter and United generally raise matters which could or should have been addressed initially and resolved by the Judge in the exercise of his considerable authority and discretion.[6] Accordingly, we direct the parties here to submit all future pleadings to the Judge who may, if he feels the issues raised to be appropriate, certify such questions to us. Also, pursuant to 47 USC 154(i)(j) and 155(d)(1), if any such certifications are made in this proceeding, we delegate to the Chief, Common Carrier Bureau, authority to act on them and he may, in his discretion, bring them before the Commission in appropriate cases.

VI. ORDER

9. Accordingly, *it is ordered*, That the motion to enlarge issues filed by Carpenter is granted to the extent indicated herein and is otherwise denied;

10. *It is further ordered*, That the petition for clarification and/or modification filed by United is dismissed;

11. *It is further ordered*, That the petition for emergency relief filed by Carpenter is dismissed as moot and that the supplemental petition is denied;

12. *It is further ordered*, That the two formal complaints, filed by Carpenter on June 29, 1977 and July 7, 1977 are dismissed; and

13. *It is further ordered*, That the Secretary shall send a copy of this Order by certified mail, return receipt requested, to Carpenter Radio Company, United Telephone Company of Ohio, serve the Trial Staff, and shall cause a copy to be published in the FEDERAL REGISTER.

FEDERAL COMMUNICATIONS
COMMISSION,
WILLIAM J. TRICARICO,
Secretary.

[FR Doc. 79-4408 Filed 2-8-79; 8:45 am]

[6712-01-M]

[FCC 79-65]

COMMISSION ORDERED DIVESTITURE OF NEWSPAPER-BROADCAST COMBINATIONS

Filing of Waivers

FEBRUARY 2, 1979.

1. On June 12, 1978, the Supreme Court affirmed the FCC's newspaper-broadcast cross-ownership rulemaking proceeding, which required, among other things, divestiture by 1980 of monopoly combinations (defined as those combinations which were essentially without competition in a particular community). The Commission's reconsideration Order, 53 FCC 2d 589, 594, allows those entities ordered to divest 60 days after judicial review is completed to file for a waiver of that requirement.

2. On January 31, 1979, the U.S. Court of Appeals for the District of Columbia Circuit issued its mandate, affirming the Commission's rulemaking in its entirety. Since this marks the completion of judicial review, the sixty (60) day period for filing waivers will commence immediately.

3. Accordingly, it is ordered that any requests for waiver of the Commission's order requiring divestiture of certain newspaper-broadcast combinations, see 50 FCC 2d 1046, *recons. denied* 53 FCC 2d 589, must be filed no later than the close of business sixty (60) days from the release date of this Public Notice.

Action by the Commission January 31, 1979. Commissioners Ferris (Chairman), Lee, Quello, Washburn, Fogarty, White and Brown.

FEDERAL COMMUNICATIONS
COMMISSION,
WILLIAM J. TRICARICO,
Secretary.

[FR Doc. 79-4407 Filed 2-8-79; 8:45 am]

[6730-01-M]

FEDERAL MARITIME COMMISSION

[Independent Ocean Freight Forwarder License No. 1990]

CARL V. LOWELL

Order of Revocation

On January 8, 1979, Carl V. Lowell, 9414 NW 13 Street, #46, Miami, Florida 33172 requested the Commission to revoke his Independent Ocean Freight Forwarder License No. 1990, effective Janaury 31, 1979.

Therefore, by virtue of authority vested in me by the Federal Maritime Commission as set forth in Manual of Orders, Commission Order No. 201.1, (Revised) section 5.01(c) dated August 8, 1977;

It is ordered, That Independent Ocean Freight Forwarder License No. 1990 issued to Carl V. Lowell be and is hereby revoked offective January 31, 1979, without prejudice to reapplication for a license in the future.

It is further ordered, That Independent ocean Freight Forwarder License No. 1990 issued to Carl V. Lowell be returned to the Commission for cancellation.

It is further ordered, That a copy of this Order be published in the FEDERAL REGISTER and served upon Carl V. Lowell.

ROBERT G. DREW,
Director, Bureau of
Certification and Licensing.

[FR Doc. 79-4457 Filed 2-8-79; 8:45 am]

[6730-01-M]

[Docket No. 79-7]

PUERTO RICO MARITIME SHIPPING AUTHORITY V. SEATRAIN GITMO, INC. AND TRAILER MARINE TRANSPORT CORP.

Filing of Complaint

Notice is hereby given that a complaint filed by Puerto Rico Maritime Shipping Authority against Seatrain Gitmo, Inc. and Trailer Marine Transport Corporation was served February 5, 1979. The complaint alleges that respondents have entered into an agreement for the charter and use of the barge *Isla Grande* without prior Commission approval in violation of secton 15 of the Shipping Act.

The complaint is hereby assigned to the Office of Administrative Law Judges pursuant to Rule 61. Complainant's requests for reduction of time to answer, for expedited commencement of hearing, and for bifurcation of proceedings are also referred to the Office of Administrative Law Judges.

Hearing in this matter, if any is held, shall include oral testimony and cross-examination in the discretion of the presiding officer only upon a proper showing that there are genuine issues of material fact that cannot be resolved on the basis of sworn statement, affidavits, depositions, or other documents or that the nature of the matters in issue is such that an oral hearing and cross-examination are necessary for the development of an adequate record.

FRANCIS C. HURNEY,
Secretary.

[FR Doc. 79-4458 Filed 2-8-79; 8:45 am]

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[6] In an appropriate case, we think the Judge may act on pleadings which are clearly within his authority and discretion even if they are addressed to the Commission. To hold otherwise would be putting form over substance, resulting in unnecessary delay for all parties and the wasting of the Commission's limited resources.

[1610-01-M]

GENERAL ACCOUNTING OFFICE

REGULATORY REPORTS REVIEW

Extension of Time To File Comments

On January 16, 1979, GAO published a notice (44 FR 3313) requesting comments by February 5, 1979, from all interested persons, organizations, public interest groups, and affected businesses on a Federal Trade Commission request for clearance of a new, mandatory, single-time questionnaire which wil be sent to the bar associations of the 50 states and the District of Columbia. Pursuant to 44 U.S.C. 3512 GAO is limited in the amount of time it has to review the request. However, GAO hereby extends the comment period to February 20, 1979.

Norman F. Heyl,
Regulatory Reports Review Officer.

[FR Doc. 79-4551 Filed 2-8-79; 8:45 am]

[6820-25-M]

GENERAL SERVICES ADMINISTRATION

[Federal Property Management Regs.; Temporary Reg. F-481]

SECRETARY OF DEFENSE

Delegation of Authority

1. *Purpose.* This regulation delegates authority to the Secretary of Defense to represent the interests of the executive agencies of the Federal Government in a telephone rate proceeding.

2. *Effective date.* This regulation is effective immediately.

3. *Delegation.* a. Pursuant to the authority vested in me by the Federal Property and Administrative Services Act of 1949, 63 Stat. 377, as amended, particularly sections 201(a)(4) and 205(d) (40 U.S.C. 481(a)(4) and 486(d)), authority is delegated to the Secretary of Defense to represent the consumer interests of the executive agencies of the Federal Government before the Virginia State Corporation Commission involving the application of the Chesapeake and Potomac Telephone Company of Virginia for an increase in telephone rates.

b. The Secretary of Defense may redelegate this authority to any officer, official, or employee of the Department of Defense.

c. This authority shall be exercised in accordance with the policies, procedures, and controls prescribed by the General Services Administration, and shall be exercised in cooperation with the responsible officers, officials, and employees thereof.

Jay Solomon,
Administrator of General Services.

January 26, 1979.

[FR Doc. 79-4450 Filed 2-8-79; 8:45 am]

[4110-85-M]

DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE

Office of the Assistant Secretary for Health

FILING OF ANNUAL REPORTS OF FEDERAL ADVISORY COMMITTEES

Notice is hereby given that pursuant to section 13 of Pub. L. 92-463, the Annual Reports for the following Office of the Assistant Secretary for Health Federal Advisory Committees have been filed with the Library of Congress:

Health Services Developmental Grants Study Section
Health Care Technology Study Section
Health Services Research Study Section

Copies are available to the public for inspection at the Library of Congress, Special Forms Reading Room, Main Building, or weekdays between 9:00 a.m. and 4:30 p.m. at the Department of Health, Education, and Welfare, Department Library, North Building, Room 1436, 330 Independence Avenue, S.W., Washington, D.C. 20201, Telephone (202) 245-6791. Copies may be obtained from Mr. Russell Seidel, National Center for Health Services Research, 3700 East-West Highway, Room 7-50A, Hyattsville, Maryland 20782, Telephone (301) 436-6920.

Dated: February 2, 1979.

Wayne Richey, Jr.,
Acting Associate Director for Program Support, Office of Health Research, Statistics, and Technology.

[FR Doc. 79-4451 Filed 2-8-79; 8:45 am]

[4110-89-M]

Assistant Secretary for Education

COMMENTS ON COLLECTION OF INFORMATION AND DATA ACQUISITION ACTIVITY

Pursuant to Section 406(g)(2)(B), General Education Provisions Act, notice is hereby given as follows:

The National Center for Education Statistics, and the U.S. Office of Education have proposed collections of information and data acquisition activities which will request information from educational agencies or institutions.

The purpose of publishing this notice in the Federal Register is to comply with paragraph (g)(2)(B) of the "Control of Paperwork" amendment which provides that each educational agency or institution subject to a request under the collection of information and data acquisition activity and their representative organizations shall have an opportunity, during a 30-day period before the transmittal of the request to the Director of the Office of Management and Budget, to comment to the Administrator of the National Center for Education Statistics on the collection of information and data acquisition activity.

These data acquisition activities are subject to review by the HEW Education Data Acquisition Council and the Office of Management and Budget.

Descriptions of the proposed collections of information and data acquisition activities follow below.

Written comments on the proposed activities are invited. Comments should refer to the specific sponsoring agency and form number and must be received on or before March 12, 1979, and should be addressed to Administrator, National Center for Education Statistics, ATTN: Manager, Information Acquisition, Planning, and Utilization, Room 3001, 400 Maryland Avenue, S.W., Washington, D.C. 20202.

Further information may be obtained from Elizabeth M. Proctor of the National Center for Education Statistics, 202-245-1022.

Dated: February 5, 1979.

Marie D. Eldridge,
Administrator, National Center for Education Statistics.

Description of a Proposed Collection of Information and Data Acquisition Activity

1. TITLE OF PROPOSED ACTIVITY: College and University Library Survey.

2. AGENCY/BUREAU/OFFICE: National Center for Education Statistics/Division of Multilevel Education Statistics/Learning Resources Branch.

3. AGENCY FORM NUMBER: NCES 2300-5.

4. LEGISLATIVE AUTHORITY FOR THIS ACTIVITY:

"Section 406 (b) The purpose of the (National) Center (for Education Statistics) shall be to collect and disseminate statistics and other data related to education in the United States and in other nations. The Center shall—(1) collect, collate, and from time to time, report full and complete statistics on the condition of education in the United States * * *" Section (f)(1)(A) "* * * The Center shall furnish such special statistical compilations and surveys as the Committees on Labor and Public Welfare and on Appropriation of the House of Representatives may request * * *"

(Pub. L. 93-380; 20 U.S.C. 1221-1).

"Section 133 (a) The Assistant Secretary shall * * * (4) review the lifelong learning opportunities provided through employers, unions, the media, libraries and museums, secondary schools and postsecondary educational institutions, and other public and private organizations to determine means by which the enhancement of their effectiveness and coordination may be facilitated * * *"

(Pub. L. 94-482; 20 U.S.C. 1015b).

5. VOLUNTARY/OBLIGATORY NATURE OF RESPONSE: Voluntary.

6. HOW INFORMATION COLLECTED WILL BE USED: The survey data will be published in reports which are used to: study trends; make comparisons among individual libraries and among groups of libraries; calculate ratios with respect to other educational variables, and to calculate indexes. Such analyses are used by: Federal and State agencies in the administration of library programs; college and university administrators and librarians in the management of libraries; associations to evaluate the status of the library profession; and by publishers and equipment manufacturers to evaluate markets.

7. DATA ACQUISITION:

a. METHOD OF COLLECTION: Mail and telephone follow-up where necessary.

b. TIME OF COLLECTION: Fall 1979.

c. FREQUENCY: Biennially.

8. RESPONDENTS:

a. TYPE: College and University Librarians.

b. NUMBER: 3,000.

c. ESTIMATED AVERAGE MAN-HOUR PER RESPONDENT: 2.5 hours.

9. INFORMATION TO BE COLLECTED: Number of periodical subscriptions, number of book volumes, microforms, audiovisual and other library materials added during year and held at the end of the year. Number of circulations and interlibrary loans. Number of full-time and part-time staff by sex and type of position. Full-time and part-time salaries. Individual and group transactions between librarians and patrons. Operating expenditures for salaries, books, periodicals, audiovisual and other library materials. Percentage of books, periodicals and microforms in health science subjects and total Federal library grants received.

DESCRIPTION OF A PROPOSED COLLECTION OF INFORMATION AND DATA ACQUISITION ACTIVITY

1. TITLE OF PROPOSED ACTIVITY: Private School Library Media Center Survey—1979.

2. AGENCY/BUREAU/OFFICE: National Center for Education Statistics/Division of Multilevel Education Statistics/Learning Resources Branch.

3. AGENCY FORM NUMBER: NCES 2349-3.

4. LEGISLATIVE AUTHORITY FOR THIS ACTIVITY:

"Sec. 406 (b) The Center shall:

(1) collect, collate, and from time to time report full complete statistics on the conditions of education in the United States;

(2) conduct and publish reports on specialized analyses of the meaning and significance of such statistics;

(3) assist State and local educational agencies in improving and automating their statistical and data collection activities."

(Pub. L. 93-380; 20 U.S.C. 1221e-1)

"Sec. 133 (a) The Assistant Secretary shall: * * *

(4) review the lifelong learning opportunities provided through employers, unions, the media, libraries and museums, secondary schools and postsecondary educational institutions, and other public and private organizations to determine means by which the enhancement of their effectiveness and coordination may be facilitated; * * *

(6) identify existing barriers to lifelong learning and evaluate programs designed to eliminate such barriers; and

(7) to the extent practicable, seek the advice and assistance of the agencies of the Education Division."

(Pub. L. 94-482; 20 U.S.C. 1015(b))

5. VOLUNTARY/OBLIGATORY NATURE OF RESPONSE: Voluntary.

6. HOW INFORMATION COLLECTED WILL BE USED: The data will be used by the National Center for Education Statistics as an integral part of the Condition of Education report; the Education Division administrators in determining future policy; the Bureau of Libraries and Learning Resources in its activity of comparing data collected with National standards; and by state administrators, researchers, and students as a source on library resources.

7. DATE ACQUISITION PLAN:

a. METHOD OF COLLECTION: Mail and telephone.

b. TIME OF COLLECTION: Fall 1979.

c. FREQUENCY: Every four years.

8. RESPONDENTS:

a. TYPE: Private school librarian.

b. NUMBER: Approximately 2,000 (sample).

c. ESTIMATED AVERAGE MAN-HOURS PER RESPONDENT: 30 minutes.

9. INFORMATION TO BE COLLECTED: Data will consist of an inventory of books, periodicals, and audiovisual materials, a count of staff, size of facilities and utilization of resources.

DESCRIPTION OF A PROPOSED COLLECTION OF INFORMATION AND DATA ACQUISITION ACTIVITY

1. TITLE OF PROPOSED ACTIVITY: 1980 Survey of 1978-79 College Graduates.

2. AGENCY/BUREAU/OFFICE: National Center for Education Statistics.

3. AGENCY FORM NUMBER: NCES form 2385.

4. LEGISLATIVE AUTHORITY FOR THIS ACTIVITY: Section 406(b)(5) (The Center shall) "Conduct a continuing survey of institutions of higher education to determine the demand for, and the availability of qualified teachers * * *"

(Pub. L. 93-380 as amended by Pub. L. 94-482; 20 USC 1221e-1).

5. VOLUNTARY/OBLIGATORY NATURE OF RESPONSE: Voluntary.

6. HOW INFORMATION COLLECTED WILL BE USED: Condition of education: Legislators, counselors, educators, students will use the data to assess the job market for college graduates by field; e.g., unemploment, underemployment, teacher supply and demand, etc.

7. DATA ACQUISITION PLAN:

a. Method of collection: Mail.

b. Time of collection: Fall 1979.

c. Frequency: Biennial.

8. RESPONDENTS:

a. Type: College and Universities.

b. Number: Sample: 300.

c. Estimated average man-hours per respondent: 2 hours (range of 1-10 hours).

9. INFORMATION TO BE COLLECTED: Colleges and universities (1) A list of September 1, 1978-August 31, 1979 Bachelor's and Master's degree recipients with major field of study (2) Addresses for a sample (an average of 35 per school) of these graduates (A sample of graduates will then be sent a brief questionnaire inquiring about their employment and education status).

DESCRIPTION OF A PROPOSED COLLECTION OF INFORMATION AND DATA ACQUISITION ACTIVITY

1. TITLE OF PROPOSED ACTIVITY: Survey of Teacher Demand and Shortage (1979-80).

2. AGENCY/BUREAU/OFFICE: The National Center for Education Statistics.

3. AGENCY FORM NUMBER: NCES-2406.

4. LEGISLATIVE AUTHORITY FOR THIS ACTIVITY:

"The Education Amendments of 1976, Title IV, Sec. 401(a)(5) conduct a continuing survey of institutions of higher education and local educational agencies to determine the demand for, and the availability of, qualified teachers and administrative personnel, especially in critical areas within education which are developing or are likely to develop,* * *"

Pub. L. 94-482:20 USC 1221e-1)

5. VOLUNTARY/OBLIGATORY NATURE OF RESPONSE: Voluntary.

6. HOW INFORMATION COLLECTED WILL BE USED: The information to be obtained by NCES will be reported to the Congress to be used in considering new legislation or in modifying existing legilation, as well as in considering funding levels for related educational programs. Such information is required by the Congress to help determine whether programs should be redirected toward critical teacher shortage areas and whether incentives should be provided to encourage students to enter teaching shortage areas or discourage them from entering surplus fields.

7. DATA ACQUISITION PLAN:

a. METHOD OF COLLECTION: Mail.

b. TIME OF COLLECTION: October-November 1979.

c. FREQUENCY: Biennially.

8. RESPONDENTS:

a. TYPE: Local Education Agencies/State-operated Schools/Nonpublic Schools/Intermediate Agencies.

b. NUMBER: 2000-2500.

c. ESTIMATED AVERAGE MAN-HOURS PER RESPONDENT: 30 minutes.

9. INFORMATION TO BE COLLECTED: By instructional field and level, number of full-time and part-time teachers employed as of October 30, 1979, existence of position openings for 1979-80 school year, number of teachers laid off after 1978-79 school year because of budgetary limitations, number of positions for which teachers could not be found (shortages), and indication as to whether demand is expected to increase or decrease.

This notice replaces the notice published in Vol. 43, No. 205 on Monday, October 23, 1978, p. 49368.

Description of a Proposed Collection of Information and Data Acquisition Activity

1. TITLE OF PROPOSED ACTIVITY: High School and Beyond—A National Longitudinal Study: Base-Year 1980 Survey of High School Sophomores and Seniors.

2. AGENCY/BUREAU/OFFICE: National Center for Education Statistics.

3. AGENCY FORM NUMBER: NCES 2409 series.

4. LEGISLATIVE AUTHORITY FOR THIS ACTIVITY: Sec. 501. "The purpose of the Center shall be to collect and disseminate statistics and other data related to education in the United States and in other nations.

The Center shall—

(1) collect, collate, and, from time to time, report full and complete statistics on the conditions of education in the United States;

(2) conduct and publish reports on specialized analyses of the meaning and significance of such statistics;

(3) assist State and local educational agencies in improving and automating their statistical and data collection activities; and

(4) review and report on educational activities in foreign countries."

(Pub. L. 93-380; 20 USC 1221e-1)

5. VOLUNTARY/OBLIGATORY NATURE OF RESPONSE: Voluntary.

6. HOW INFORMATION COLLECTED WILL BE USED: Nationally representative data to be obtained from the base-year 1980 survey will bear on such issues as quality of education, equality and diversity of educational opportunity, continuing education, and relationships between education and career patterns. The data will be relevant to Federal policy concerns and will also be used by educational policy-makers at State and local levels. Individual States will have the opportunity in 1980 to supplement the student sample within-State as may be needed to provide a stronger data base relevant to specific State concerns.

7. DATA ACQUISITION PLAN:

a. METHOD OF COLLECTION: Mail and/or personal interview.

b. TIME OF COLLECTION: February-April 1980.

c. FREQUENCY: Single time.

8. RESPONDENTS:

a. TYPE: Students, public secondary schools and nonpublic secondary schools.

b. NUMBER: Sample. 72 students in each of approximately 1,200 public secondary schools and 200 nonpublic secondary schools.

c. ESTIMATED AVERAGE MAN-HOURS PER RESPONDENT: Student questionnaire: 1. Cognitive test: 1.

a. TYPE: School administrators or supervisors.

b. NUMBER: Sample. 1 person in each of 1,200 public secondary schools; 1 person in each of 200 nonpublic secondary schools.

c. ESTIMATED AVERAGE MAN-HOURS PER RESPONDENT: School questionnaire: 1. Student's school record information form: 20 minutes for each of 72 students in a school.

a. TYPE: Teachers, secondary, full-time.

b. NUMBER: Sample. An average of 50 teachers per school.

c. ESTIMATED AVERAGE MAN-HOURS PER RESPONDENT: Techers' comments checklist: 10 minutes.

9. INFORMATION TO BE COLLECTED:

a. Student questionnaire: Current curricula; plans for future education, careers, and life activities; student background; attitudes and problems related to education and life plans.

b. Cognitive test: Cognitive abilities relevant to academic and vocational success.

c. School questionnaire: Characteristics of the school and its student body, curricula, professional staff, facilities, and student services; participation in Federal assistance programs.

d. Student's school record information form: Summary of student transcript.

e. Teachers' comments checklist: Questions on status and potential of the students in the sample.

Description of a Proposed Collection of Information and Data Acquisition Activity

1. TITLE OF PROPOSED ACTIVITY: Single State Application for Federal Funds for Assistance to Local Agencies.

2. AGENCY, BUREAU, OFFICE: U.S. Office of Education, Bureau of Elementary and Secondary Education, OLLR and SLEP.

3. AGENCY FORM NUMBER: OE 417.

4. LEGISLATIVE AUTHORITY FOR THIS ACTIVITY.

"Sec. 435. (a) In the case of any State which applies, contracts, or submits a plan, for participation in any applicable program in which Federal funds are made available for assistance to local educational agencies through, or under the supervision of the State educational agency of that State, such State shall submit (subject, in the case of programs under titles I and IV of the Elementary and Secondary Education Act of 1965, to the provisions of title V of such Act) to the Commissioner a general application containing the assurances set forth in subsection (b). Such application may be submitted jointly for all programs covered by the application, or it may be submitted separated for each such program or for groups of programs. Each application submitted under this section must be approved by each official, agency, board, or other entity within the State which, under State law, is primarily responsible for supervision of the activities conducted under each program covered by the application.

"(b) An application submitted under subsection (a) shall set forth assurances, satisfactory to the Commissioner—

"(1) that each program will be administered in accordance with all applicable statutes, regulations, program plans, and applications;

"(2) that the control of funds provided under each program and title to property acquired with program funds will be in a public agency, or in a nonprofit private agency, institution, or organization if the statute authorizing the program provides for grants to such entities, and that the public agency or nonprofit private agency, institution, or organization will administer such funds and property;

"(3) that the State will adopt and use proper methods of administering each applicable program, including—

"(A) monitoring of agencies, institutions, and organizations responsible for carrying out each program, and the enforcement of any obligations imposed on those agencies, institutions, and organizations under law.

"(B) providing technical assistance, where necessary, to such agencies, institutions, and organizations,

"(C) encouraging the adoption of promising or innovative educational techniques by such agencies, institutions, and organizations,

"(D) the dissemination throughout the State of information on program requirements and successful practices, and

"(E) the correction of deficiencies in program operations that are identified through monitoring or evaluation;

"(4) that the State will evaluate the effectiveness of covered programs in meeting their statutory objectives, at such intervals (not less often than once every three years) and in accordance with such procedures as the Commissioner may prescribe by regulation, and that the State will cooperate in carrying out any evaluation of each program conducted by or for the Secretary or other Federal official;

"(5) that the State will use fiscal control and fund accounting procedures that will ensure proper disbursement of, and accounting for, Federal funds paid to the State under each program;

"(6) that the State will make reports to the Commissioner (including reports on the results of evaluations required under paragraph (4)) as may resonably be necessary to enable the Commissioner to perform his duties under each program, and that the State will maintain such records, in accordance with the requirements of section 437 of the Act, and afford access to the records as the Commissioner may find necessary to carry out his duties; and

"(7) that the State will provide reasonable opportunities for the participation by local agencies, representatives of the class of individuals affected by each program, and other interested institutions, organizations, and individuals in the planning for and operation of each program, including the following;

"(A) the State will consult with relevant advisory committees, local agencies, interest groups, and experienced professionals in the development of program plans required by statute;

"(B) the State will publish each proposed plan, in a manner that will ensure circulation throughout the State, at least sixty days prior to the date on which the plan is submitted to the Commissioner or on which the plan becomes effective, whichever occurs earlier, with an opportunity for public comments on such plan to be accepted for at least thirty days;

"(C) the State will hold public hearings on the proposed plans if required by the Commissioner by regulation; and

"(D) the State will provide an opportunity for interested agencies, organizations, and individuals to suggest improvements in the administration of the program and to allege that there has been a failure by any entity to comply with applicable statutes and regulations.

"(c) Each general application submitted under this section shall remain in effect for the duration of any program it covers. The Commissioner shall not require the resubmission or amendment of that application unless required by changes in Federal or State law or by any other significant changes in the circumstances affecting an assurance in that application."

((20 U.S.C. 1232d) Pub. L. 95-561)

5. VOLUNTARY, OBLIGATORY NATURE OF RESPONSE: Required to obtain or maintain benefits.

6. HOW INFORMATION COLLECTED WILL BE USED: The information is needed by OE progran units to ensure that a State is eligible to participate in any applicable program.

7. DATA ACQUISITION PLAN:

a. Method of Collection: Mail.

b. Time of Collection: Summer.

c. Frequency: Once for the duration of any program covered.

8. RESPONDENTS:

a. Type: State educational agencies.

b. Number: 58.

c. Estimated Man-Hours Per Respondent: 2.

9. INFORMATION TO BE COLLECTED: State educational agencies will check a list of 15 Federal education programs to indicate those for which it is applying and make the required assurances.

Description of a Proposed Collection of Information and Data Acquisition Activity

TITLE OF PROPOSED ACTIVITY: Financial Status, Performance, and State Advisory Council Reports Under Title IV of the Elementary and Secondary Education Act, Educational Improvement, Resources, and Support, P.L. 95-561.

2. AGENCY, BUREAU, OFFICE: U.S. Office of Education, Bureau of Elementary and Secondary Education.

3. AGENCY FORM NUMBER: OE 535-1 through 3.

4. LEGISLATIVE AUTHORITY FOR THIS ACTIVITY:

"Sec. 437. (a) The Commissioner shall require that each State submit to him, within ninety days after the end of any fiscal year, a report on the uses of Federal funds in that State under any applicable program for which the State is responsible for administration. Such report shall—

(1) list all grants and contracts made under such program to the local educational agencies and other public and private agencies and institutions within such State during such year;

(2) include the total amount of funds available to the State under each such program for such fiscal year and specify from which appropriation Act or Acts these funds were available;

(3) with respect to the second preceding fiscal year, include a compilation of reports from local educational agencies and other public and private agencies and institutions within such State which sets forth the amount of such Federal funds received by each such agency and the purposes for which such funds were expended;

(4) with respect to such second preceding fiscal year, include a statistical report on the individuals served or affected by programs, projects, or activities assisted with such Federal funds; and

(5) be made readily available by the State to local educational agencies and other public and private agencies and institutions within the State, and to the public

((20 U.S.C. 1232f) Pub. L. 93-380; Pub. L. 94-273; Pub. L. 94-482)

"Sec. 403(b)(10)(D) The State Advisory Council shall prepare at least every three years and submit through the State educational agency a report of its activities, recommendations, and evaluations, together with such additional comments as the State educational agency deems appropriate to the Commissioner."

((20 U.S.C. 3084) Pub. L. 95-561)

5. VOLUNTARY, OBLIGATORY NATURE OF RESPONSE: Required to obtain or maintain benefits.

6. HOW INFORMATION COLLECTED WILL BE USED: The information is needed to assure that adequate progress is being made toward achieving the goals of the grants. Because there are three separate allotments, one for Part B, one for Part C, and one for Part D, the use of Title IV funds must be reported separately for the three parts. Part B, Part C, and Part D have different program purposes but operate under a single State plan.

7. DATA ACQUISITION PLAN:

a. Method of Collection: Mail.

b. Time of Collection: Fall.

c. Frequency: Annual except that the State Advisory Council Report will be submitted at least every three years.

8. RESPONDENTS:

a. Type: State educational agencies and Title IV State Advisory Councils.

b. Number: 58.

c. Estimated Man-Hours Per Respondent: 60.

9. INFORMATION TO BE COLLECTED:

a. Financial Status Reports.

(1) Instructional Materials and School Library Resources.

(a) Expenditures for program administration.

(b) Expenditures for school library resources/other instructional materials, textbooks, and instructional equipment for *public* school children.

(c) Expenditures for school library resources/other instructional material, textbooks, and instructional equipment for the benefit of *private* school children.

(d) Expenditures for State Advisory Council from funds for program administration.

(2) Improvement in Local Educational Practices.

(a) Expenditures for program administration.

(b) Expenditures for activities to address serious education problems.

(c) Expenditures for improvement of programs for educationally deprived children.

(d) Expenditures for basic skills programs.

(e) Expenditures for programs to diagnose learning problems and achievement assessment.

(f) Expenditures for school management projects.

(g) Expenditures for professional development activities.

(h) Expenditures for early childhood and family education programs for preschool children and their parents.

(i) Expenditures for extended education activities.

(j) Expenditures for remedial summer programs.

(k) Expenditures for parent education.

(l) Expenditures for retraining of teacher.

(m) Expenditures for programs to develop educational material for children to use at home.

(n) Expenditures for projects for handicapped children under Sec. 432(c).

(o) Expenditures for State Advisory Council from funds for program administration.

(3) Guidance, Counseling, and Testing.

(a) Expenditures for State leadership and supervisory services under Part D.

(b) Expenditures for State Advisory Council from funds for program administration.

(c) Elementary and secondary school counseling.

(d) Inservice training for guidance personnel

(e) Local supervision and leadership.

(f) Program planning and development.

(g) Special guidance and counseling programs for disadvantaged persons.

(h) Testing.

(i) Evaluation of testing, counseling and guidance programs.

b. Performance Report

(1) Part I—General.

(a) Comparison of actual accomplishments of Title IV to the goals established in the State Plan.

(b) The reasons for slippage if established goals were not met; and

(c) Pertinent program information, such as

(i) Number of persons and full time equivalents of persons paid from Title IV administrative funds.

(ii) State public and private elementary and secondary school enrollments.

(2) Part II—Instructional Materials and School Library Resources, Part B.

(a) Comparison of accomplishments of Part B in relation to statutory objectives.

(b) Abstracts of selected outstanding Part B projects.

(c) Number of public and private elementary and secondary children served under Part B (unduplicated count).

(d) Total number of Part B projects (unduplicated count).

(3) Part III—Improvement in Local Educational Practices, Part C.

(a) Comparison of accomplishments of Part C in relation to program objectives.

(b) Number of LEAs participating in Part B by program purposes (See item (2)(b) through (n) above.

(c) Number of public and private elementary and secondary school children participating in Part C, by program purposes (See item (2)(b) through (n) above).

(4) IV—Guidance, Counseling, and Testing, Part D.

(a) Comparison of accomplishments of Part D in relation to program objectives.

(b) Number of LEAs participating in Part D, by program purposes.

(c) Number of public and private elementary and secondary school children participating in Part D, by program purposes.

(d) Number of school guidance counselors serving elementary and secondary public and private schools.

(e) Number of persons employed in SEA with funds from Sec. 441(b).

(f) Number of public and private elementary and secondary school children tested.

DESCRIPTION OF A PROPOSED COLLECTION OF INFORMATION AND DATA ACQUISITION ACTIVITY

1. TITLE OF PROPOSED ACTIVITY: Validation Form—Basic Educational Opportunity Grant Program.

2. AGENCY/BUREAU/OFFICE: Office of Education/Bureau of Student Financial Assistance/Division of Cerfication and Program Review.

3. AGENCY FORM NUMBER: OE-623.

4. LEGISLATIVE AUTHORITY FOR THIS ACTIVITY:

"Sec. 411(b) * * *

(2) Each student desiring a basic grant for any year must file an application therefor containing such information and assurances as the Commissioner may deem necessary to enable him to carry out his functions and responsibilities under this subpart. Sec. 411(b).

(3)(A) Payments under this section shall be made in accordance with regulations promulgated by the Commissioner for such prupose, in such manner as will best accomplish the purposes of this section.

((20 USC 1070a) (Pub. L. 92-318))

Sec. 411(b).

(d)(1) In addition to payments made with respect to entitlements under this subpart, each institution of higher education shall be eligible to receive from the Commissioner the payment of $10 per academic year for each student enrolled in that institution who is receiving a Basic Grant under this subpart for that year. Payment received by an institution under this subsection shall be used first to carry out the provision of section 493A of this Act and then for such additional administrative costs as the institution of higher education determines necessary."

((20 USC 1070a) (Pub. L. 92-318))

5. VOLUNTARY/OBLIGATORY NATURE OF RESPONSE: Obligatory.

6. HOW INFORMATION TO BE COLLECTED WILL BE USED: The data collected by the institutions will be used only to verify information on the respondent's Student Elibility Report. This data will remain in the regular student-aid files at the institutions. Any corrections necessary as a result of validation will be made through the normal Basic Grant corrections process.

7. DATA ACQUISITION PLAN:

a. METHOD OF COLLECTION: "Mail" and/or "Personal Interview".

b. TIME OF COLLECTION: Throughout the year.

c. FREQUENCY: Annually.

8. RESPONDENTS:

a. TYPE: Students in Postsecondary education.

b. NUMBER: Sample—200,000.

c. ESTIMATED AVERAGE- MAN-HOURS PER RESPONDENT: .33.

a. TYPE: Financial Aid Offices in Postsecondary Institutes.

b. NUMBER: Approximately 5,600.

c. ESTIMATED AVERAGE MAN-HOUR PER RESPONDENT: 1.

9. INFORMATION TO BE COLLECTED: Students: Categories of collected data are (A) respondent identification; (B) verification of information submitted on Basic Grant application (i.e., applicant's status, number in household, number in post-high, Veterans educational benefits, Social Security Benefits, non-taxable income received in 1978, applicant's and parent's or spouse's Federal Income Tax return, explanation of total income less than $1,000, explanation of inability to provide documentation) and (C) certification of validity of information provided on the Validation Form. Financial Aid Officers: Verify the information provided by the student and maintain the material and records in the student's file.

Description of a Proposed Collection of Information and Data Acquisition Activity

1. TITLE OF PROPOSED ACTIVITY: Instructions for the preparation of the State Plan for ESEA Title IV, Part B, C, and D, Educational Improvement, Resources, and Support.

2. AGENCY, BUREAU, OFFICE: U.S. Office of Education, Bureau of Elementary and Secondary Education.

3. AGENCY FORM NUMBER: OE 634.

4. LEGISLATIVE AUTHORITY FOR THIS ACTIVITY:

"Sec. 404. (a) A State shall be eligible to receive grants under this part if it has on file with the Commissioner a general State application under section 501 or section 435 of the General Education Provisions Act, whichever is applicable, and if it submits to the Commissioner a State plan at such times (no more often than once every three years) and in such detail as the Commissioner deems necessary, which—

"(1) designates the State educational agency as the State agency which shall, either directly or through arrangements with other State of local public agencies, act as the sole agency for the administration of the State plan;

"(2) sets forth a program under which funds paid to the State from its allotments under section 403 will be expended solely for the programs and purposes that meet the requirements set forth in part B, part C, and part D of this title;

"(3) provides assurances that the requirements of section 406 (relating to the participation of pupils and teachers in private elementary and secondary schools) will be met, or certifies that such requirements cannot legally be met in such State;

"(4) describes the means by which the State educational agency will provide technical assistance to local educational agencies to enable them fully to participate in programs assisted under this title;

"(5) provides assurances that funds such agency receives from appropriations made under section 402(b) will be distributed among local educational agencies on an equitable basis, recognizing the competitive nature of the grantmaking except that the State educational agency shall provide assistance in formulating proposals and in operating programs to local educational agencies which are less able to compete due to small size or lack of local financial resources to distribute funds made available under this title to local educational agencies; and describes the procedures the State will use;

"(6) provides that local educational agencies applying for funds under part B and part D shall be required to submit applications for that program not more often than once every three years;

"(7) provides assurances that the aggregate amount to be expended per student or the aggregate expenditure by the State, its local educational agencies, and private schools in such State from funds derived from non-Federal sources for programs described in part B and part D, respectively, for the preceding fiscal year are not less than the amount per student expended or the aggregate expenditure for the second preceding fiscal year for each such part;

"(8) provides that, for any fiscal year in which the provisions of section 510(B)(2) are not met, of the funds the State receives under section 402 for each fiscal year, the State will use for administration of the State plan not to exceed whichever of the following is greater: (A) 5 per centum of the amount so received ($75,000 in the case of Guam, American Samoa, the Virgin Islands, the Northern Mariana Islands, and the Trust Territory of the Pacific Islands), excluding any part of such amount used for purposes of section 431(a), or (B) $225,000; and provides that the remainder of such funds shall be made available to local educational agencies to be used for the purposes of parts B, C, and D, respectively;

"(9) provides that, for any fiscal year in which the provisions of section 523(b) are not met, not more than the greater of (A) 15 per centum of the amount which such State receives pursuant to section 402(b) for any fiscal year, of (B) the amount available by appropriation to such State in the fiscal year ending June 30, 1973 and period covered by section 431(a)(3) as in effect in such year, shall be used for activities described in section 421;

"(10) sets forth policies and procedures which give satisfactory assurance that Federal funds made available under this title for any fiscal year will not be commingled with State funds;

"(11) sets forth the means by which the State will make information and technical assistance available to private non-profit school officials who desire to arrange for children in those schools to participate in Federal elementary and secondary education programs;

"(12) sets forth a comprehensive plan for the coordination of Federal and State funds for training activities for educational personnel in the State including preservice and inservice training, which plan shall be developed with the involvement of teachers, professional associations, institutions of higher education, and other interested individuals; and

"(13) provides that the State has established a State advisory council in accordance with subsection (b).

(Pub. L. 95-561; 20 U.S.C. 3084)

5. VOLUNTARY, OBLIGATORY NATURE OF RESPONSE: Required to obtain or maintain benefits.

6. HOW INFORMATION COLLECTED WILL BE USED: The information is necessary to fulfill the statutory requirements contained in Section 404 of Title IV of the Act. The data will be used to report to Congress and to the education community in program impact. It will also be used to improve program management.

7. DATA ACQUISITION PLAN:

a. Method of Collection: Mail

b. Time of Collection: Summer

c. Frequency: Not more than once every three years

8. RESPONDENTS:

a. Type: State educational agencies

b. Number: 58

c. Estimated Average Man-Hours Per Respondent: 100

9. INFORMATION TO BE COLLECTED:

The State plan requests information on the following topics:

I. Assurances and Statements

II. General Provisions

A. Program and Administration

B. State Advisory Council

C. Technical Assistance to Private School Officials

D. Procedures to Avoid Commingling Funds

E. Coordination of State and Federal Funds for Training

III. Part B, Instructional Materials and School Library Resources

A. Description of Program and Staffing Pattern

B. Technical Assistance to LEAs

C. Submission of LEA Applications

D. Assurance, Maintenance of Effort

E. Consultation of Appropriate Officials on Use of Part B Funds

IV. Part C, Improvement in Local Educational Practices

A. Description of Program and Staffing Pattern

B. Assurance, Distribution of Funds

C. Procedures for Distribution of Funds

D. Determination of Administrative Funds

E. Assurance, Set Aside for Compensatory Education

F. Use and Amount of Strengthening Funds

G. Criteria on Declining Federal Support

H. Assurance, Consultation with Private School Officials in Planning Proposals

V. Part D Guidance, Counseling, and Testing

A. Description of Program and Staffing Pattern

B. Technical Assistance to LEAs

C. Submission of LEA Application

D. Assurance, Maintenance of Effort

E. Determination of Administrative Funds

F. Assurance, Local Discretion

5DESCRIPTION OF PROPOSED COLLECTION OF INFORMATION AND DATA ACQUISITION ACTIVITY

1. TITLE OF PROPOSED ACTIVITY: An Assessment of the Capacity Building Accomplishments of the Regional Resource Centers.

2. AGENCY/BUREAU/OFFICE: U.S. Office of Education—Office of Evaluation and Dissemination.

3. AGENCY FORM NUMBER: OE 635-1 thru -5.

4. LEGISLATIVE AUTHORITY FOR THIS ACTIVITY:

"* * * The Secretary shall transmit (to specified committees of the Congress) an annual evaluation report which evaluate the effectiveness of applicable programs * * * such report shall (among other things) * * * describe the cost and benefits of the applicable program being evaluated * * * and identify which sectors of the public receive the benefits of such programs * * *."

(Pub. L. 93-380, Section 506(a) (3); Part B, Subpart 2, Section 417(a) of the General Education Provision Act as amended; 20 USC 1226c).

5. VOLUNTARY/OBLIGATORY NATURE OF RESPONSE: Voluntary.

6. HOW INFORMATION TO BE COLLECTED WILL BE USED: The survey of projects funded under Pub. L. 91-230 (Regional Resource Centers) is primarily designed to determine the impact these centers have had on their SEA and LEA constituencies in terms of their capacity building accomplishments in education for the handicapped. This study will seek to identify the extent to which these centers have been successful, as well as to identify those non-fiscal obstacles which prevent the realization of ultimate success.

Information from this study will be used to recommend technical and administrative changes to the Bureau of Education for the Handicapped to remove identified obstacles to the success of their program. This information will also be used to provide recommendations for revisions to the workscope of the centers.

Summary results containing information which will support recommended legislative changes in Public Law 91-230, Part C-621 will be distributed to appropriate members of Congress and their staffs. The information will be used by Congress for the legislative review of Public Law 91-230, Part C-621 and can be used to modify the funding of the program.

7. DATA ACQUISITION PLAN:

a. *Method of Collection:* On-site questionnaires, mail questionnaires and personal interviews.

b. *Time of Collection:* Spring/Summer, 1979.

c. *Frequency:* Single Time Only.

8. RESPONDENTS:

a. *Type:* Regional Resource Centers Director.

b. *Number:* Universe—15.

c. *Estimated Average Man Hours Per Respondents:* 3 (Interview).

a. *Type:* SEA Director of Special Education.

b. *Number:* Universe—58.

c. *Estimated Average Man Hours Per Respondent:* 1 (Interview).

a. *Type:* LEA Director of Special Education.

b. *Number:* Sample—228

c. *Estimated Average Man Hours Per Respondent:* 1.5 (Interview).

a. *Type:* School Level Staff (IEP Implementation Process Instrument).

b. *Number:* Sample—1368 (based on maximum of 6 building level staff per LEA).

c. *Estimated Average Man Hours Per Respondent:* .25 (self-administered).

a. *Type:* Parents (IEP Implementation Process Instrument).

b. *Number:* Sample—6840 (based on maximum of 30 parents per LEA).

c. *Estimated Average Man Hours Per Respondent:* .25 (self-administered).

9. INFORMATION TO BE COLLECTED:

a. Regional Resource Center (RRC). Information collected at the RRC level will include: RRC administration practices and procedures, service delivery system information, staffing information, project activities information, dissemination efforts information, interagency coordination efforts information, financial information, special projects information, and self-assessment information.

b. State Education Agency (SEA). Information collected at the SEA will include: description of SEA technical assistance and implementation activities, SEA interface with RRC and other special education supportive services information, SEA rules, regulations, and standards for implementation of Public Law 94-142, state demographic information, and SEA reactions and opinions of RRC effort.

c. Local Education Agency (LEA). Information collected at the LEA will include: (from the LEA special education administrator) LEA organization and activities for implementation of Public Law 94-142, LEA special education staffing and financial information, LEA technical assistance/in-service information, LEA interface with RRC, SEA, and other special education supportive services, LEA policies and regulations for implementation of Public Law 94-142, LEA demographic characteristics, LEA IEP models, LEA reaction to SEA and/or RRC effort, and LEA special education service delivery system; (from building level staff and parents) responsibilities in relation to IEP development, and training information.

DESCRIPTION OF A PROPOSED COLLECTION OF INFORMATION AND DATA ACQUISITION ACTIVITY

1. TITLE OF PROPOSED ACTIVITY: Instructions for the preparation of the State plan for ESEA Title V, Part B, Strengthening State Educational Agency Management.

2. AGENCY, BUREAU, OFFICE: U.S. Office of Education, Bureau of Elementary and Secondary Education.

3. AGENCY FORM NUMBER: OE 681.

4. LEGISLATIVE AUTHORITY FOR THIS ACTIVITY:

"Sec. 522. Each State which desires to participate in programs under this part shall submit to the Commissioner a State plan which sets forth in such detail as the Commissioner prescribes the purposes for which funds provided under this part will be used by the State educational agency. The plan shall also set forth—

"(1) the means by which the State will make information and tecnnical assistance available to private nonprofit school officials who desire to arrange for children in those schools to participate in Federal elementary and secondary education programs; and

"(2) a comprehensive plan for the coordination of Federal and State funds for training activities for educational personnel in the State including preservice and inservice training, which plan shall be developed with the involvement of teachers, professional associations, institutions of higher education, and other interested individuals and organizations.

((20 U.S.C. 3162) Pub. L. 95-561)

5. VOLUNTARY, OBLIGATORY NATURE OF RESPONSE: Required to obtain or maintain benefits.

6. HOW INFORMATION WILL BE USED: The information is necessary to report to Congress and to the education community on program impact. It will also be used to improve program management.

7. DATA ACQUISITION PLAN:

a. Method of Collection: Mail.

b. Time of Collection: Spring.

c. Frequency: Not more than once every three years.

8. RESPONDENTS:

a. Type: State educational agencies.

b. Number: 57.

c. Estimated Man-Hours Per Respondent: 100.

9. INFORMATION TO BE COLLECTED: In accordance with the requirement under section 522, each State which desires to participate shall submit to the Commissioner a State plan which will:

(a) Identify objectives and activities for strenghening the educational leadership and assist in meeting critical educational needs.

(b) Estimated funds allocated to each objective.

(c) Organizational unit responsible for activity.

(d) Means by which State will make information available to private nonprofit school officials about Federal programs.

(e) A comprehensive plan for coordination of Federal and State funds for training activities for educational personnel.

Description of a Proposed Collection of Information and Data Acquisition Activity

1. TITLE OF PROPOSED ACTIVITY: Financial Status and Performance Reports under ESEA Title V, Part B, Strengthening State Educational Agency Management, Pub. L. 95-561.

2. AGENCY, BUREAU, OFFICE: U.S. Office of Education, Bureau of Elementary and Secondary Education.

3. AGENCY FORM NUMBER: OE 681-1.

4. LEGISLATIVE AUTHORITY FOR THIS ACTIVITY:

Sec. 437.(a) The Commissioner shall require that each State submit to him, within ninety days after the end of any fiscal year, a report on the uses of Federal funds in that State under any applicable program for which the State is responsible for administration. Such report shall—

(1) list all grants and contracts made under such program to the local educational agencies and other public and private agencies and institutions within such State during such year;

(2) include the total amount of funds available to the State under each such program for such fiscal year and specify from which appropriation Act or Acts these funds were available;

(3) with respect to the second preceding fiscal year, include a compilation of reports from local educational agencies and other public and private agencies and institutions within such State which sets forth the amount of such Federal funds received by each such agency and the purposes for which such funds were expended;

(4) with respect to such second preceding fiscal year, include a statistical report on the individuals served or affected by programs, projects, or activities assisted with such Federal funds; and

(5) be made readily available by the State to local educational agencies and other public and private agencies and institutions within the State, and to the public.

((20 U.S.C. 1232f) Pub. L. 93-380; Pub. L. 94-273; Pub. L. 94-482.)

5. VOLUNTARY, OBLIGATORY NATURE OF RESPONSE: Required to obtain or maintain benefits.

6. HOW INFORMATION COLLECTED WILL BE USED: The information is needed to assure adequate progress is being made toward achieving objectives and that fiscal requirements are being met.

7. DATA ACQUISITION PLAN:

a. Method of Collection: Mail.

b. Time of Collection: Fall.

c. Frequency: Annually.

8. RESPONDENTS:

a. Type: State educational agencies.

b. Number: 57.

c. Estimated Man-Hours Per Respondent: 60.

9. INFORMATION TO BE COLLECTED:

a. Financial Status Report. Expenditures by fiscal year of appropriation obligated during grant period.

b. Performance Report. Accomplishments for each objective funded and degree to which unmet needs exist.

[FR Doc. 79-4433 Filed 2-8-79; 8:45 am]

[4110-03-M]

Food and Drug Administration

VET PRODUCTS CO.

Dihydrostreptomycin Tablets and Boluses; Withdrawal of Approval of NADA

AGENCY: Food and Drug Administration.

ACTION: Notice.

SUMMARY: The Food and Drug Administration (FDA) withdraws approval of three new animal drug applications (NADA's) which provide for use of tablets and boluses containing dihydrostreptomycin with one or more of the following ingredients: kaolin, pectin, vitamin A, and carob flour for treatment of calves for bacterial scours and swine for bacterial enteritis. Vet Products Co., the sponsor of these applications, has requested this action.

EFFECTIVE DATE: February 9, 1979.

FOR FURTHER INFORMATION CONTACT:

Donald A. Gable, Bureau of Veterinary Medicine (HFV-100), Food and Drug Administration, Department of Health, Education, and Welfare, 5600 Fishers Lane, Rockville, MD 20857, 301-443-4313.

SUPPLEMENTARY INFORMATION: Vet Products Co., 1524 Holmes St., Kansas City, MO 64108 is sponsor of NADA's 65-092V, 65-227V, and 65-229V. These applications, originally approved March 25, 1957, July 18, 1955, and April 5, 1967, respectively, provide for the use of several products containing dihydrostreptomycin with one or more of the following ingredients: kaolin, pectin, vitamin A, and carob flour for the treatment of calves for bacterial scours and swine for bacterial enteritis. These products were similar to those which were the subject of a National Academy of Sciences/National Research Council (NAS/NRC) review published in the Federal Register of August 22, 1970 (35 FR 13487). The firm was advised that these products must be brought into compliance with the conclusions of that review.

On August 17, 1978, the agency advised the firm that if it did not respond in 30 days concerning bringing these products into compliance with the conclusions of the NAS/NRC review, the agency would proceed with action to withdraw approval of these applications. The firm was also informed that if it was not marketing the products, it could request a withdrawal of approval.

The firm responded on August 28, 1978 indicating that manufacture of the products had been discontinued. It requested a withdrawal of approval of the applications.

Therefore, under the Federal Food, Drug, and Cosmetic Act (sec. 512(e), 82 Stat. 345-347 (21 U.S.C. 360b(e))), and under authority delegated to the Commissioner of Food and Drugs (21 CFR 5.1) and redelegated to the Director of the Bureau of Veterinary Medicine (21 CFR 5.84), and in accordance with § 514.115 *Withdrawal of approval of applications* (21 CFR 514.115), notice is given that approval of NADA's 65-092V, 65-227V, and 65-229V and all supplements for these products is hereby withdrawn, effective February 9, 1979.

Dated: January 30, 1979.

TERENCE HARVEY,
Acting Director,
Bureau of Veterinary Medicine.

[FR Doc. 79-4409 Filed 2-8-79; 8:45 am]

[4110-03-M]

ANTIMICROBIAL PANEL

Meeting Change

AGENCY: Food and Drug Administration.

ACTION: Notice.

SUMMARY: The Antimicrobial Panel meeting announced by notice in the FEDERAL REGISTER of January 16, 1979 (44 FR 3314) for February 23 and 24, 1979, has been changed to March 23 and 24, 1979, in Conference Room B, Parklawn Bldg., 5600 Fishers Lane, Rockville, MD 20857.

FOR FURTHER INFORMATION CONTACT:

Lee Geismar, Bureau of Drugs (HFD-510), Food and Drug Administration, Department of Health, Education, and Welfare, 5600 Fishers Lane, Rockville, MD 20857, 301-443-6057.

Dated: Feburary 1, 1978.

WILLIAM F. RANDOLPH,
Acting Associate Commissioner
for Regulatory Affairs.

[FR Doc. 79-4111 Filed 2-8-79; 8:45 am]

[4110-02-M]

Office of Education

NATIONAL ADVISORY COUNCIL ON WOMEN'S EDUCATIONAL PROGRAMS

Meeting

AGENCY: Office of Education, National Advisory Council on Women's Educational Programs.

ACTION: Notice of Meeting.

SUMMARY: This notice sets forth the schedule and proposed agenda of a forthcoming meeting of the Federal Policy, Practices and Programs Committee of the National Advisory Council on Women's Educational Programs. Notice of the meeting is required pursuant to Section 10(a)(2) of the Federal Advisory Committee Act (Pub. L. 92-463). This document is intended to notify the general public of their opportunity to attend.

DATE: February 27, 1979, 9:30 a.m. to 5:00 p.m.

ADDRESS: 1832 M Street, NW., Suite 821, Washington, D.C. 20036.

FOR FURTHER INFORMATION CONTACT:

Laura R. Summers, National Advisory Council on Women's Educational Programs, 1832 M Street, NW., #821, Washington, D.C. 20036, (202) 653-5846.

The National Advisory Council on Women's Educational Programs is established pursuant to Public Law 95-561. The Council is mandated to (a) advise the Commissioner with respect to general policy matters relating to the administration of Women's Educational Equity Act of 1974; (b) advise and make recommendations to the Assistant Secretary for Education concerning the improvement of educational equity for women; (c) make recommendations to the Commissioner with respect to the allocation of any funds pursuant of Pub. L. 95-561, including criteria developed to insure an appropriate distribution of approved programs and projects throughout the Nation; (d) make such reports to the President and the Congress on the activities of the Council as it determines appropriate; (e) develop criteria for the establishment of program priorities; and (f) disseminate information concerning its activities under Pub. L. 95-561.

The agenda for the Federal Policy, Practices, and Programs Committee will include discussion of further Council activity on sex equity.

The meeting of the Federal Policy, Practices, and Programs Committee will be open to the public. Records will be kept of the proceedings and will be available for public inspection at the Council offices at 1832 M Street, NW., Suite 821, Washington, D.C.

Signed at Washington, D.C., on February 6, 1979.

JOY R. SIMONSON,
Executive Director.

[FR Doc. 79-4456 Filed 2-8-79; 8:45 am]

[4210-01-M]

DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT

Federal Disaster Assistance Administration

[FDAA-3068-EM; Docket No. NFD-662]

ILLINOIS

Amendment to Notice of Emergency Declaration

AGENCY: Federal Disaster Assistance Administration.

ACTION: Notice.

SUMMARY: This Notice amends the Notice of Emergency declaration for the State of Illinois (FDAA-3068-EM), dated January 16, 1979.

DATED: January 19, 1979.

FOR FURTHER INFORMATION CONTACT:

A. C. Reid, Program Support Staff, Federal Disaster Assistance Administration, Department of Housing and Urban Development, Washington, D.C. 20410, (202) 634-7825.

NOTICE: The Notice of Emergency for the State of Illinois dated January 16, 1979, is hereby amended to include the following area among those areas determined to have been adversely affected by the emergency declared by the President in his declaration of January 16, 1979.

The County of: Mercer

The period of emergency assistance is hereby limited to begin as of 12:01 a.m., January 19, 1979, and to extend through 12:00 midnight, January 20, 1979, except if unusual circumstances warrant an extension of time.

(Catalog of Federal Domestic Assistance No. 14.701, Disaster Assistance)

WILLIAM H. WILCOX,
Administrator, Federal Disaster
Assistance Administration.

[FR Doc. 79-4470 Filed 2-8-79; 8:45 am]

[4210-01-M]

[FDAA-3068-EM, Docket No. NFD-663]

ILLINOIS

Amendment to Notice of Emergency Declaration

AGENCY: Federal Disaster Assistance Administration.

ACTION: Notice.

SUMMARY: This Notice amends the Notice of Emergency declaration for the State of Illinois (FDAA-3063-EM), dated January 16, 1979.

DATED: January 20, 1979.

FOR FURTHER INFORMATION CONTACT:

A. C. Raid, Program Support Staff, Federal Disaster Assistance Administration, Department of Housing and Urban Development, Washington, D.C. 20410 (202/634-7825).

NOTICE: The Notice of Emergency for the State of Illinois dated January 16, 1979, is hereby amended to include the following area among those areas determined to have been adversely affected by the emergency declared by the President in his declaration of January 16, 1979.

The County of: Marshall

The period of emergency assistance is hereby limited to begin as of 12:01 a.m., January 20, 1979, and to extend through 12:00 midnight, January 23, 1979, except if unusual circumstances warrant an extension of time.

(Catalog of Federal Domestic Assistance No. 14.701 Disaster Assistance.)

William H. Wilcox,
Administrator, Federal Disaster Assistance Administration.

[FR Doc. 79-4471 Filed 2-8-79; 8:45 am]

[4210-01-M]

[FDAA-3069-EM; Docket No. NFD-664]

WISCONSIN

Emergency Declaration and Related Determinations

AGENCY: Federal Disaster Assistance Administration.

ACTION: Notice.

SUMMARY: This is a Notice of the Presidential declaration of an emergency for the State of Wisconsin (FDAA-3069-EM), dated January 19, 1979, and related determinations.

DATED: January 19, 1979.

FOR FURTHER INFORMATION CONTACT:

John Perry, Acting Chief, Program Support Staff, Federal Disaster Assistance Administration, Department of Housing and Urban Development, Washington, D.C. 20410, (202) 634-7825.

NOTICE: Pursuant to the authority vested in the Secretary of Housing and Urban Development by the President under Executive Order 11795 of July 11, 1974, and delegated to me by the Secretary under Department of Housing and Urban Development Delegation of Authority, Docket No. D-74-285; and by virtue of the Act of May 22, 1974, entitled "Disaster Relief Act of 1974: (88 Stat. 143); notice is hereby given that on January 19, 1979, the President declared an emergency as follows:

> I have determined that the impact of an abnormal accumulation of snow resulting from a series of blizzards and snowstorms in the State of Wisconsin is of sufficient severity and magnitude to warrant a declaration of an emergency under Pub. L. 93-288. I therefore declare that such an emergency exists in the State of Wisconsin.

Notice is hereby given that pursuant to the authority vested in the Secretary of Housing and Urban Development under Executive Order 11795, and delegated to me by the Secretary under Department of Housing and Urban Development Delegation of Authority, Docket No. D-74-285, I hereby appoint Mr. Robert E. Connor of the Federal Disaster Assistance Administration to act as the Federal Coordinating Officer for this declared emergency.

I do hereby determine the following areas of the State of Wisconsin to have been adversely affected by this declared emergency.

The City of Milwaukee.
The Counties of Kenosha and Racine.

The period of emergency assistance is hereby limited to a maximum of five days, from 12:01 a.m., on the date of the President's declaration, January 19, 1979. except in those cases where unusual circumstances warrant extensions of time.

(Catalog of Federal Domestic Assistance No. 14.701, Disaster Assistance.)

William H. Wilcox,
Administrator, Federal Disaster Assistance Administration.

[FR Doc. 79-4472 Filed 2-8-79 8:45 am]

[4310-02-M]

DEPARTMENT OF THE INTERIOR

Bureau of Indian Affairs

FEDERAL ACKNOWLEDGMENT OF EXISTENCE AS AN INDIAN TRIBE

Receipt of Petition

February 6, 1979.

This notice is published in the exercise of authority delegated by the Secretary of the Interior to the Assistant Secretary—Indian Affairs by 230 DM 2.

Pursuant to 25 CFR 54.8(a) notice is hereby given that the Georgia Tribe of Eastern Cherokees, Inc., c/o Mr. Thomas B. Mote, Route 3, Dahlonega, Georgia 30533, has filed a petition for acknowledgment by the Secretary of the Interior that the group exists as an Indian tribe. The petition was received by the Bureau of Indian Affairs on January 9, 1979. The petition was forwarded and signed by Mr. Thomas B. Mote, Chairman of the Board of Directors of the petitioning group.

This is a notice of receipt of petition and does not constitute notice that the petition is under active consideration. Notice of active consideration will be by mail to the petitioner and other interested parties at the appropriate time.

Under § 54.8(d) of the Federal regulations, interested parties may submit factual or legal arguments in support of or in opposition to the group's petition. Any information submitted will be made available on the same basis as other information in the Bureau of Indian Affairs files.

The petition may be examined by appointment in the Division of Tribal Government Services, Bureau of Indian Affairs, Department of the Interior, 18th and C Streets, N.W., Washington, D.C. 20245.

Theodore C. Krenzke,
Acting Assistant Secretary, Indian Affairs.

February 6, 1979.

[FR Doc. 79-4435 Filed 2-8-79; 8:45 am]

[4310-84-M]

Bureau of Land Management

[NM 35945]

NEW MEXICO

Application

February 2, 1979.

Notice is hereby given that, pursuant to Section 28 of the Mineral Leasing Act of 1920 (30 U.S.C. 185), as amended by the Act of November 16, 1973 (87 Stat. 576), Natural Gas Pipeline Company of America has applied for one 4-inch natural gas pipeline and related facilities right-of-way across the following land:

New Mexico Principal Meridian, New Mexico

T. 19 S., R. 23 E.,
Sec. 4, S½NE¼;
Sec. 17, W½NW¼

This pipeline will convey natural gas across 0.872 of a mile of public land in Eddy County, New Mexico.

The purpose of this notice is to inform the public that the Bureau will be proceeding with consideration of whether the application should be approved, and if so, under what terms and conditions.

Interested persons desiring to express their views should promptly send their name and address to the District Manager, Bureau of Land Management, P.O. Box 1397, Roswell, New Mexico 88201.

Fred E. Padilla,
Chief, Branch of
Land and Minerals Operations

[FR Doc. 79-4452 Filed 2-8-79; 8:45 am]

[4310-84-M]

[Wyoming 65914]

WYOMING

Application

February 1, 1979.

Notice is hereby given that pursuant to Section 28 of the Mineral Leasing Act of 1920, as amended (30 U.S.C. 185), the Cities Service Gas Company of Oklahoma City, Oklahoma filed an application for a right-of-way to install anodes and construct three 4½ inch pipelines, and one 8⅝ inch pipeline for the purpose of transporting natural gas across the following described public lands:

Sixth Principal Meridian, Wyoming

T. 17 N., R. 94 W.,
  Secs. 8 and 18.
T. 18 N., R. 94 W.,
  Secs. 28 and 32.
T. 18 N., R. 95 W.,
  Sec. 36.

The proposed pipelines will transport natural gas from 6 wells located within Tps. 17 & 18 N., Rs. 94 & 95 W., to a point of connection with an existing pipeline located in the S½SW¼ of section 21, T. 18 N., R. 94 W., all within Sweetwater County, Wyoming.

The purpose of this notice is to inform the public that the Bureau will be proceeding with consideration of whether the application should be approved, and if so, under what terms and conditions.

Interested persons desiring to express their views should do so promptly. Persons submitting comments should include their name and address and send them to the District Manager, Bureau of Land Management, 1300 Third Street, P.O. Box 670, Rawlins, Wyoming 82301.

Harold G. Stinchcomb,
Chief, Branch of
Lands and Minerals Operations.

[FR Doc. 79-4453 Filed 2-8-79; 8:45 am]

[4310-84-M]

ARIZONA; SHIVWITS GRAZING MANAGEMENT PROPOSAL

Intent To Prepare an Environmental Statement

The Department of the Interior, Bureau of Land Management, Arizona Strip District Office, will prepare an Environmental Impact Statement on the forage allocation for the Shivwits Resource Area in northern Mohave County, Arizona. The statement will consider four alternatives to the proposed forage allocation. They are: (1) No Action—forage allocations would remain at the present levels, (2) No Vegetative Manipulation—there would be no increase in livestock forage from land treatments, (3) Stocking Level By Condition—the stocking level would be adjusted by the condition and trend of the range, (4) Elimination of Livestock Grazing on Public Lands.

The data base for the Environmental Statement will be the Bureau's planning documents. These documents were prepared by the Bureau with input from other agencies and the user groups. The planning documents are available for inspection at the BLM District Office, 196 E. Tabernacle, St. George, Utah 84770.

For information regarding the proposal and the environmental impact statement, contact either of the following individuals:

Dennis Carter, Project Leader, Arizona Strip District, BLM, 196 E. Tabernacle, St. George, Utah 84770, Telephone 801-628-0426.

Bill Carter, Environmental Coordinator, Arizona State Office, BLM, 2400 Valley Bank Center, Phoenix, Arizona 85073, Telephone FTS 261-4127, Commercial 602-261-4127.

Dated: February 2, 1979.

Harold H. Ramsbacher,
Acting State Director, Arizona.

[FR Doc. 79-4415 Filed 2-8-79; 8:45 am]

[4310-84-M]

[NM 35946, 35947 and 35979]

NEW MEXICO

Applications

February 2, 1979.

Notice is hereby given that, pursuant to Section 28 of the Mineral Leasing Act of 1920 (30 U.S.C. 185), as amended by the Act of November 16, 1973 (87 Stat. 576), El Paso Natural Gas Company has applied for three 4½-inch natural gas pipeline and related facilities rights-of-way across the following lands:

New Mexico Principal Meridian, New Mexico

T. 28 N., R. 7 W.,
  Sec. 7, lot 2 and S½SE¼;
  Sec. 23, W½SE¼.
T. 27 N., R. 8 W.,
  Sec. 35, E½SE¼.

These pipelines will convey natural gas across 0.406 of a mile of public lands in Rio Arriba and San Juan Counties, New Mexico.

The purpose of this notice is to inform the public that the Bureau will be proceeding with consideration of whether the applications should be approved, and if so, under what terms and conditions.

Interested persons desiring to express their views should promptly send their name and address to the District Manager, Bureau of Land Management, P.O. Box 6770, Albuquerque, New Mexico 87107.

Fred E. Padilla,
Chief, Branch of
Lands and Minerals Operations.

[FR Doc. 79-4421 Filed 2-8-79; 8:45 am]

[4310-84-M]

[NM 35840 and 35842]

NEW MEXICO

Applications

January 30, 1979.

Notice is hereby given that, pursuant to Section 28 of the Mineral Leasing Act of 1920 (30 U.S.C. 185), as amended by the Act of November 16, 1973 (87 Stat. 576), El Paso Natural Gas Company has applied for three 4½-inch natural gas pipeline rights-of-way across the following lands:

New Mexico Principal Meridian, New Mexico

T. 20 S., R. 26 E.,
  Sec. 14, SE¼;
  Sec. 23, NE¼NE¼.
T. 23 S., R. 33 E.,
  Sec. 30, W½NE¼.

These pipelines will convey natural gas across 0.973 of a mile of public lands in Eddy and Lea Counties, New Mexico.

The purpose of this notice is to inform the public that the Bureau will be proceeding with consideration of whether the applications should be approved, and if so, under what terms and conditions.

Interested persons desiring to express their views should promptly send their name and address to the District Manager, Bureau of Land Management, P.O. Box 1397, Roswell, New Mexico 88201.

Fred E. Padilla,
Chief, Branch of
Lands and Minerals Operations.

[FR Doc. 79-4420 Filed 2-8-79; 8:45 am]

[4310-84-M]

[NM 35841]

NEW MEXICO

Application

JANUARY 30, 1979.

Notice is hereby given that, pursuant to Section 28 of the Mineral Leasing Act of 1920 (30 U.S.C. 185), as amended by the Act of November 16, 1973 (87 Stat. 576), El Paso Natural Gas Company has applied for one 4½-inch natural gas pipeline right-of-way across the following land:

NEW MEXICO PRINCIPAL MERIDIAN, NEW MEXICO

T. 31 N., R. 10 W.,
Sec. 34, lots 5, 7 and 8.

This pipeline will convey natural gas across 0.558 of a mile of public land in San Juan County, New Mexico.

The purpose of this notice is to inform the public that the Bureau will be proceeding with consideration of whether the application should be approved, and if so, under what terms and conditions.

Interested persons desiring to express their views should promptly send their name and address to the District Manager, Bureau of Land Management, P.O. Box 6770, Albuquerque, New Mexico 87107.

FRED E. PADILLA,
Chief Branch of Lands and Minerals Operations.

[FR Doc. 79-4419 Filed 2-8-79; 8:45 am]

[4310-84-M]

[NM 35941]

NEW MEXICO

Application

FEBRUARY 1, 1979.

Notice is hereby given that, pursuant to Section 28 of the Mineral Leasing Act of 1920 (30 U.S.C. 185), as amended by the Act of November 16, 1973 (87 Stat. 576), Transwestern Pipeline Company has applied for one 4-inch natural gas pipeline right-of-way across the following land:

NEW MEXICO PRINCIPAL MERIDIAN, NEW MEXICO

T. 18 S., R. 29 E.,
Sec. 5, E½SW¼ and S½SE¼.

This pipeline will convey natural gas across 0.65 of a mile of public land in Eddy County, New Mexico.

The purpose of this notice is to inform the public that the Bureau will be proceeding with consideration of whether the application should be approved, and if so, under what terms and conditions.

Interested persons desiring to express their views should promptly send their name and address to the District Manager, Bureau of Land Management, P.O. Box 1397, Roswell, New Mexico 88201.

RAUL E. MARTINEZ,
Acting Chief, Branch of Lands and Minerals Operations.

[FR Doc. 79-4418 Filed 2-8-79; 8:45 am]

[4310-84-M]

[NM 35954]

NEW MEXICO

Application

FEBRUARY 1, 1979.

Notice is hereby given that, pursuant to Section 28 of the Mineral Leasing Act of 1920 (30 U.S.C. 185), as amended by the Act of November 16, 1973 (87 Stat. 576), Ashland Exploration, Inc. has applied for one 6-inch natural gas pipeline right-of-way across the following land:

NEW MEXICO PRINCIPAL MERIDIAN, NEW MEXICO

T. 22 S., R. 36 E.,
Sec. 19, E½NE¼, N½SE¼ and SW¼SE¼;
Sec. 30, lot 3, NW¼NE¼, E½NW¼ and NE¼SW¼.

This pipeline will convey natural gas across 1.697 miles of public land in Lea County, New Mexico.

The purpose of this notice is to inform the public that the Bureau will be proceeding with consideration of whether the application should be approved, and if so, under what terms and conditions.

Interested persons desiring to express their views should promptly send their name and address to the District Manager, Bureau of Land Management, P.O. Box 1397, Roswell, New Mexico 88201.

RAUL E. MARTINEZ,
Acting Chief, Branch of Lands and Minerals Operations.

[FR Doc. 79-4416 Filed 2-8-79; 8:45 am]

[4310-84-M]

[NM 36004]

NEW MEXICO

Application

FEBRUARY 2, 1979.

Notice is hereby given that, pursuant to Section 28 of the Mineral Leasing Act of 1920 (30 U.S.C. 185), as amended by the Act of November 16, 1973 (87 Stat. 576), Transwestern Pipeline Company has applied for one 6-inch natural gas pipeline right-of-way across the following land:

NEW MEXICO PRINCIPAL MERIDIAN, NEW MEXICO

T. 17 S., R. 28 E.,
Sec. 23, SE¼NW¼ and NE¼SW¼.

This pipeline will convey natural gas across 0.30 of a mile of public land in Eddy County, New Mexico.

The purpose of this notice is to inform the public that the Bureau will be proceeding with consideration of whether the application should be approved, and if so, under what terms and conditions.

Interested persons desiring to express their views should promptly send their name and address to the District Manager, Bureau of Land Management, P.O. Box 1397, Roswell, New Mexico 88201.

FRED E. PADILLA,
Chief, Branch of Lands and Minerals Operations.

[FR Doc. 79-4417 Filed 2-8-79; 8:45 am]

[4310-84-M]

[Wyoming 66307]

WYOMING

Application

JANUARY 30, 1979.

Notice is hereby given that pursuant to Section 28 of the Mineral Leasing Act of 1920, as amended (30 U.S.C. 185), the Northwest Pipeline Corporation of Salt Lake City, Utah filed an application for a right-of-way to construct a 4½ and 6⅝ inch O.D. pipeline and related facilities for the purpose of transporting natural gas across the following described public lands:

SIXTH PRINCIPAL MERIDIAN, WYOMING

T. 21 N., R. 112 W.,
Sec. 10, E½NE¼;
Sec. 14, W½NW¼ and NW¼SW¼,
Sec. 22, E½NE¼, NW¼NE¼, E½NW¼, SW¼NW¼, N½SW¼ and SW¼SW¼;
Sec. 28, N½NE¼, NE¼NW¼, S½NW¼ and N½SW¼.

The proposed Lateral A-9 pipeline will connect on the Lateral A-5 Gathering system in the NE¼NE¼ section 10 and the Whiskey Butte No. 5, 12, 16, 22 wells located in the NW¼SW¼ section 14 and the NE¼SW¼ section 22, 23 and 28 will transport natural gas in a southerly direction to a point in the S½SW¼ section 29, T. 21 N., R. 112 W., Lincoln County, Wyoming.

The purpose of this notice is to inform the public that the Bureau will be proceeding with consideration of whether the application should be approved and, if so, under what terms and conditions.

Interested persons desiring to express their views should do so promptly. Persons submitting comments should include their name and address and send them to the District Manager, Bureau of Land Management, Highway 187 N., P.O. Box 1869, Rock Springs, Wyoming 82901.

HAROLD G. STINCHCOMB,
Chief, Branch of
Lands and Minerals Operations.

[FR Doc. 79-4425 Filed 2-8-79; 8:45 am]

[4310-84-M]

[Wyoming 66321]

WYOMING

Application

FEBRUARY 1, 1979.

Notice is hereby given that pursuant to Section 28 of the Mineral Leasing Act of 1920, as amended (30 U.S.C. 185), the Northwest Pipeline Corporation of Salt Lake City, Utah filed an application for a right-of-way to construct a 4½ inch O.D. pipeline for the purpose of transporting natural gas across the following described public lands:

SIXTH PRINCIPAL MERIDIAN, WYOMING

T. 30 N., R. 113 W.,
Sec. 28, NW¼NE¼.

The pipeline will transport natural gas produced from the Belco well to a point of connection with Northwest Pipeline Corporation's existing pipeline designated as Trunk N all within the NW¼NE¼ of section 28, T. 30 N., R. 113 W., Sublette County, Wyoming.

The purpose of this notice is to inform the public that the Bureau will be proceeding with consideration of whether the application should be approved, and if so, under what terms and conditions.

Interested persons desiring to express their views should do so promptly. Persons submitting comments should include their name and address and send them to the District Manager, Bureau of Land Management, Highway 187 North, P.O. Box 1869, Rock Springs, Wyoming 82901.

HAROLD G. STINCHCOMB,
Chief, Branch of
Lands and Minerals Operations.

[FR Doc. 79-4423 Filed 2-8-79; 8:45 am]

[4310-84-M]

[Wyoming 66322]

WYOMING

Application

JANUARY 29, 1979.

Notice is hereby given that pursuant to Section 28 of the Mineral Leasing Act of 1920, as amended (30 U.S.C. 185), the Northwest Pipeline Corporation of Salt Lake City, Utah filed an application for a right-of-way to construct a 4½ inch O.D. pipeline for the purpose of transporting natural gas across the following described public lands:

SIXTH PRINCIPAL MERIDIAN, WYOMING

T. 30 N., R. 113 W.,
Sec. 28, S½NE¼.

The pipeline will transport natural gas produced from the S-28-28 Well located in the SW¼NE¼ of sec. 28 to a point of connection with Northwest Pipeline Corporation's existing pipeline in the SE¼NE¼ of sec. 28, all within T. 30 N., R. 113 W., Sublette County, Wyoming.

The purpose of this notice is to inform the public that the Bureau will be proceeding with consideration of whether the application should be approved and, if so, under what terms and conditions.

Interested persons desiring to express their views should do so promptly. Persons submitting comments should include their name and address and send them to the District Manager, Bureau of Land Management, P.O. Box 1869, Highway 187 N., Rock Springs, Wyoming 82901.

HAROLD G. STINCHCOMB,
Chief, Branch of
Lands and Minerals Operations.

[FR Doc. 79-4430 Filed 2-8-79; 8:45 am]

[4310-84-M]

[Wyoming 66327]

WYOMING

Application

FEBRUARY 1, 1979.

Notice is hereby given that pursuant to Section 28 of the Mineral Leasing Act of 1920, as amended (30 U.S.C. 185), the Northwest Pipeline Corporation of Salt Lake City, Utah filed an application for a right-of-way to construct a 4½ inch O.D. pipeline for the purpose of transporting natural gas across the following described public lands:

SIXTH PRINCIPAL MERIDIAN, WYOMING

T. 21 N., R. 112 W.,
Sec. 2, E½SW¼.

The pipeline will transport natural gas produced from the Whiskey Buttes Well No. 14 located in the NE¼SW¼ of section 2 to a point of construction with Northwest Pipeline Corporation's existing pipeline in the NE¼NW¼ of section 11, all within T. 21 N., R. 112 W., Lincoln County, Wyoming.

The purpose of this notice is to inform the public that the Bureau will be proceeding with consideration of whether the application should be approved, and if so, under what terms and conditions.

Interested persons desiring to express their views should do so promptly. Persons submitting comments should include their name and address and send them to the District Manager, Bureau of Land Management, P.O. Box 1869, Highway 187 North, Rock Springs, Wyoming 82901.

HAROLD G. STINCHCOMB,
Chief, Branch of
Lands and Minerals Operations.

[FR Doc. 79-4427 Filed 2-8-79; 8:45 am]

[4310-84-M]

[Wyoming 63228 Amdt.]

WYOMING

Application

FEBRUARY 1, 1979.

Notice is hereby given that pursuant to Section 28 of the Mineral Leasing Act of 1920, as amended (30 U.S.C. 185), the Colorado Interstate Gas Company of Colorado Springs, Colorado filed an application to amend their existing right-of-way grant to construct a 4½ inch O.D. pipeline for the purpose of transporting natural gas across the following described public lands:

SIXTH PRINCIPAL MERIDIAN, WYOMING

T. 21 N., R. 95 W.,
Sec. 36, N½SE¼.

Colorado Interstate Gas Company seeks to amend its existing right-of-way grant W-63228 for the purpose of correcting the description of this line from the SE¼ section 36, T. 20 N., R. 95 W., to a portion of the SE¼ section 36, T. 21 N., R. 95 W., Sweetwater County, Wyoming.

The purpose of this notice is to inform the public that the Bureau will be proceeding with consideration of whether the application should be approved, and if so, under what terms and conditions.

Interested persons desiring to express their views should do so promptly. Persons submitting comments should include their name and address and send them to the District Manager, Bureau of Land Management, 1300 Third Street, P.O. Box 670, Rawlins, Wyoming 82301.

HAROLD G. STINCHCOMB,
Chief, Branch of Lands and
Minerals Operations.

[FR Doc. 79-4424 Filed 2-8-79; 8:45 am]

[4310-84-50]

[Wyoming 66345]

WYOMING

Application

FEBRUARY 2, 1979.

Notice is hereby given that pursuant to Section 28 of the Mineral Leasing Act of 1920, as amended (30 U.S.C. 185), the Northwest Pipeline Corporation of Salt Lake City, Utah filed an application for a right-of-way to construct a 4½-inch O.D. pipeline for the purpose of transporting natural gas across the following described public lands:

SIXTH PRINCIPAL MERIDIAN, WYOMING

T. 18 N., R. 112 W.,
  Sec. 28, E¼NW¼.

The pipeline will transport natural gas produced from the Federal No. 28-1 Well located in the SE¼NW¼ of section 28 to a point of connection with Northwest Pipeline Corporation's existing pipeline in the SE¼NW¼ of section 21, all within T. 18 N., R. 112 W., Uinta County, Wyoming.

The purpose of this notice is to inform the public that the Bureau will be proceeding with consideration of whether the application should be approved, and if so, under what terms and conditions.

Interested persons desiring to express their views should do so promptly. Persons submitting comments should include their name and address and send them to the District Manager, Bureau of Land Management, Highway 187 North, P.O. Box 1869, Rock Springs, Wyoming 82901.

HAROLD G. STINCHCOMB,
Chief, Branch of Lands and Minerals Operations.

[FR Doc. 79-4428 Filed 2-8-79; 8:45 am]

[4310-84-M]

[Wyoming 66349]

WYOMING

Application

JANUARY 29, 1979.

Notice is hereby given that pursuant to Section 28 of the Mineral Leasing Act of 1920, as amended (30 U.S.C. 185), the Northwest Pipeline Corporation of Salt Lake City, Utah filed an application for a right-of-way to construct a 4½ and 6⅝ inch O. D. pipeline for the purpose of transporting natural gas across the following described public lands:

SIXTH PRINCIPAL MERIDIAN, WYOMING

T. 20 N., R. 111 W.,
  Sec. 28, NW¼NE¼ and N½NW¼;
  Sec. 30, NE¼NE¼.
T. 20 N., R. 112 W.,
  Sec. 24, S½S½;
  Sec. 26, N½N½.

The proposed pipeline will transport natural gas on their lateral A-8 line from a point of connection in the NW¼NW¼ section 26, T. 20 N., R. 112 W., to tie into their existing gathering system located in the NE¼NW¼ section 28, T. 20 N., R. 111 W., Sweetwater County, Wyoming.

The purpose of this notice is to inform the public that the Bureau will be proceeding with consideration of whether the application should be approved and, if so, under what terms and conditions.

Interested persons desiring to express their views should do so promptly. Persons submitting comments should include their name and address and send them to the District Manager, Bureau of Land Management, Highway 187 N., P.O. Box 1869, Rock Springs, Wyoming 82901.

HAROLD G. STINCHCOMB,
Chief, Branch of Lands and Minerals Operations.

[FR Doc. 79-4422 Filed 2-8-79; 8:45 am]

[4310-84-M]

[Wyoming 66357]

WYOMING

Application

JANUARY 29, 1979.

Notice is hereby given that pursuant to Section 28 of the Mineral Leasing Act of 1920, as amended (30 U.S.C. 185), the Sing Well Servicing Company, Incorporated of Mills, Wyoming filed an application for a right-of-way to construct a 4½ inch O.D. above ground pipeline for the purpose of transporting natural gas across the following described public lands:

SIXTH PRINCIPAL MERIDIAN, WYOMING

T. 26 N., R. 111 W.,
  Sec. 18, lot 3, SW¼NE¼, SE¼NW¼ and NE¼SW¼.
T. 26 N., R. 112 W.,
  Sec. 13, lot 3.

The proposed pipeline will transport natural gas from the No. 1 Stead Canyon well located in the SW¼NE¼ of section 18, T. 26 N., R. 111 W., to a point of connection with an existing pipeline located in lot 3 of section 13, T. 26 N., R. 112 W., all within Lincoln County, Wyoming.

The purpose of this notice is to inform the public that the Bureau will be proceeding with consideration of whether the application should be approved and, if so, under what terms and conditions.

Interested persons desiring to express their views should do so promptly. Persons submitting comments should include their name and address and send them to the District Manager, Bureau of Land Management, Highway 187 North, P.O. Box 1869, Rock Springs, Wyoming 82901.

HAROLD G. STINCHCOMB,
Chief, Branch of Lands and Minerals Operations.

[FR Doc. 79-4426 Filed 2-8-79; 8:45 am]

[4310-84-M]

[Wyoming 66581]

WYOMING

Application

FEBRUARY 2, 1979.

Notice is hereby given that pursuant to Section 28 of the Mineral Leasing Act of 1920, as amended (30 U.S.C. 185), the Colorado Interstate Gas Company of Colorado Springs, Colorado filed an application for a right-of-way to construct a 8⅝ inch O.D. pipeline for the purpose of transporting natural gas across the following described public lands:

SIXTH PRINCIPAL MERIDIAN, WYOMING

T. 18 N., R. 98 W.,
  Sec. 28, W½SW¼;
  Sec. 32, N½NW¼.

The pipeline will transport natural gas produced from the Federal No. 1 well located in the NW¼SW¼ of section 28, to a point of connection with Colorado Interstate Gas Company's existing pipeline in the SW¼NW¼ of section 32, all within T. 18 N., R. 98 W., Sweetwater County, Wyoming.

The purpose of this notice is to inform the public that the Bureau will be proceeding with consideration of whether the application should be approved, and if so, under what terms and conditions.

Interested persons desiring to express their views should do so promptly. Persons submitting comments should include their name and address and send them to the District Manager, Bureau of Land Management, Highway 187 North, P.O. Box 1869, Rock Springs, Wyoming 82901.

HAROLD G. STINCHCOMB,
Chief, Branch of Lands and Minerals Operations.

[FR Doc. 79-4429 Filed 2-8-79; 8:45 am]

[4310-70-M]

National Park Service

YOSEMITE NATIONAL PARK

Intention To Extend Concession Contract

Pursuant to the provisions of Section 5 of the Act of October 9, 1965 (79 Stat. 969; 16 U.S.C. 20), public notice is hereby given that thirty (30) days after the date of publication of this notice (March 12, 1979), the Department of the Interior, through the Director of the National Park Service, proposes to extend concession contract with El Portal Inn, authorizing it to continue to provide food and beverage service, curios and sundry items for the public at El Portal Administrative Site, Yosemite National Park, for a period of two (2) years from January 1, 1979, through December 31, 1980.

It has been determined that the proposed extension of this contract does not have potential for causing significant environmental impact and therefore preparation of an environmental assessment is not required.

The foregoing concessioner has performed its obligations to the satisfaction of the Secretary under an existing contract which expired by limitation of time on December 31, 1978, and therefore, pursuant to the Act of October 9, 1965, as cited above, is entitled to be given preference in the renewal of the contract and in the negotiation of a new contract. This provision, in effect, grants El Portal Inn, as the present satisfactory concessioner, the right to meet the terms of responsive proposals for the proposed new contract and a preference in the award of the contract, if, thereafter, the proposal of El Portal Inn is substantially equal to others received. In the event a responsive proposal superior to that of El Portal Inn (as determined by the Secretary) is submitted, El Portal Inn, will be given the opportunity to meet the terms and conditions of the superior proposal the Secretary considers desirable, and, if it does so, the new contract will be negotiated with El Portal Inn. The Secretary will consider and evaluate all proposals received as a result of this notice. Any proposal, including that of the existing concessioner, must be submitted on or before March 12, 1979, to be considered and evaluated.

Interested parties should contact the Chief, Division of Concessions Management, National Park Service, Washington, D.C. 20240, for information as to the requirements of the proposed contract.

Dated: February 1, 1979.

F. R. HOLLAND, Jr.,
Acting Associate Director, National Park Service.

[FR Doc. 79-4406 Filed 2-8-79; 8:45 am]

[4310-84-M]

Office of the Secretary

[INT FES 79-6]

VEGETATION MANAGEMENT WITH HERBICIDES; WESTERN OREGON

Availability of Final Environmental Statement

Pursuant to Section 102(2)(c) of the National Environmental Policy Act of 1969, the Department of the Interior, Bureau of Land Management, has prepared a final environmental statement on a proposed program for Vegetation Management with Herbicides on Western Oregon forest lands. The proposed program spans a 10 year period.

The statement is an assessment of the impact of using herbicides or alternatives on approximately 74,500 acres annually to aid in the establishment of forest plantations, maintenance of roads, and noxious weed control.

Copies of the final statement are available for review at the following locations:

Office of Public Affairs, Bureau of Land Management, Interior Building, 18th and C Street, N.W., Washington, D.C. 20240, telephone: (202) 343-4151.

Oregon State Office, Bureau of Land Management, Room 100, 729 NE Oregon Street, Portland, Oregon 97208, telephone: (503) 231-6273.

Coos Bay District Office, Bureau of Land Management, 333 S. Fourth Street, P.O. Box 1139, Coos Bay, Oregon 97420, telephone: (503) 269-5880.

Eugene District Office, Bureau of Land Management, 1255 Pearl Street, P.O. Box 10226, Eugene, Oregon 97401, telephone: (503) 687-6651.

Medford District Office, Bureau of Land Management, 310 W. 6th Street, Medford, Oregon 97501, telephone: (503) 779-2351.

Roseburg District Office, Bureau of Land Managemen, 777 N.W. Garden Valley Boulevard, Roseburg, Oregon 97470, telephone: (503) 672-4491.

Salem District Office, Bureau of Land Management, 3550 Liberty Road, S., P.O. Box 3227, Salem, Oregon 97302, telephone: (503) 399-5646.

Copies are available for inspection only at the following locations:

Coos Bay Public Library, 525 Anderson, Coos Bay, Oregon 97420.
Curry County Public Library, Colvin Street, Gold Beach, Oregon 97444.
Douglas County Library, Courthouse, Roseburg, Oregon 97470.
Eugene Public Library, 100 West 13th, Eugene, Oregon 97401
Glendale Public Library, Glendale, Oregon 97442.
Josephine County Library, 506 NW 5th, Grants Pass, Oregon 97526.
Josephine County Library, Illinois Valley Branch, Cave Junction, Oregon 97523.
Medford Public Library, 413 West Main, Medford, Oregon 97501.
Oregon State University Library, Corvallis, Oregon 97331.
Salem Public Library, 858 Liberty S.E., Salem, Oregon 97302.
University of Oregon Library, Eugene, Oregon 97403.

A limited number of single copies may be obtained from the Oregon State Director, Bureau of Land Management, the Office of Public Affairs, Bureau of Land Management (Washington, D.C.) and Western Oregon district offices.

Dated: February 6, 1979.

LARRY E. MEIEROTTO,
Deputy Assistant Secretary of the Interior.

[FR Doc. 79-4482 Filed 2-8-79; 8:45 am]

[4310-10-M]

IMPROVING GOVERNMENT REGULATIONS

Semiannual Agenda of Rules Scheduled for Review or Development

NOTE: This document was originally published at 44 FR 6214; January 31, 1979. It is being republished here to correct several errors in the printing of the agenda.

AGENCY: Department of the Interior.

ACTION: Semiannual Agenda of Rules Scheduled for Review or Development.

SUMMARY: This notice provides the semiannual agenda of rules scheduled for review or development between January and June 1979, and the status of rules previously scheduled for review. This semiannual agenda is required by Executive Order 12044 and 43 CFR 14.8.

DATES: January to June 1979.

ADDRESS: Unless otherwise indicated, all Knowledgeable Officials are located at the Department of the Interior, 1800 C Street, NW, Washington, D.C. 20240, Area Code 202.

FOR FURTHER INFORMATION CONTACT:

All comments and inquires with regard to these scheduled rules should be directed to the appropriate Knowledgeable Official.

Dated: January 25, 1979.

CECIL D. ANDRUS,
Secretary.

AGENDA OF REGULATIONS SCHEDULED FOR REVIEW OR DEVELOPMENT: JANUARY-JUNE 1979

CFR citation	Subject	Purpose of review/development	Significant		Regulatory Analysis		Expected dates(s) of publication (if known)	Knowledgeable official
			Yes	No	Yes	No		
BUREAU/OFFICE: OFFICE OF THE SOLICITOR								
41 CFR Subpart 14R-9.1	Inventions and Patents	To conform patent regulations to statutory authority and establish data regulations for the Office of Water Research and Technology.		x		x		D. A. Gardiner, 343-4471. Gersten Sadowsky, 343-4471
41 CFR Subpart 14R-9.2	Data	To revise and issue Departmentwide data regulations and policy.		x		x		D. A. Gardiner, 343-4471. Gersten Sadowsky, 343-4471.
BUREAU/OFFICE: OFFICE OF HEARINGS AND APPEALS, 4015 WILSON BLVD., ARLINGTON, VA 22203 (AREA CODE 703)								
43 CFR Part 4, Subpart B	General Rules Relating to Procedures and Practice.	New regulation to revise procedures in § 4.21(c) and limit petitions for reconsideration to one as well as time for filing such petitions.		x		x	Proposed Rule April 1979.	Newton Frishberg, 703-557-9040.
		New regulation to revise and clarify § 4.24(a)(4) with respect to consideration on appeal of documents exempt from disclosure under 5 U.S.C. 552(b).		x		x		
43 CFR Part 4, Subpart C	Special Rules Applicable to Contract Appeals.	New procedural rules to implement P.L. 95-563 enacted November 1, 1978, with respect to accelerated appeals involving $50,000 or less and expediting appeals of $10,000 or less.		x		x	Proposed Rule January 1979. Final Rule February 1979.	Russell C. Lynch, 703-557-1450.
43 CFR Part 4, Subpart D	Special Rules Applicable to Proceedings in Indian Probate, Including Hearings and Appeals; Tribal Purchase of Interests Under Special Statutes, Including Hearings and Appeals; and Administrative Appeals in Indian Affairs Generally.	New regulations to revise present regulations pertaining to Tribal purchase of certain interests of decedents in trust and restricted lands in Yakima, Warm Springs, and Nez Perce Reservations, as provided by special statutes.		x		x	Proposed Rule June 1979.	Laurie K. Luoma, 703-557-9200.
43 CFR Part 4, Subpart E	Special Rules Applicable to Public Land Hearings and Appeals.	New regulation to revise § 4.433 and provide for recommended decisions by administrative law judges where requested by Board of Land Appeals.		x		x	Proposed Rule April 1979.	Newton Frishberg, 703-557-9040.
		New regulation to revise § 4.439 and provide that proposed findings or recommended decisions of administrative law judges shall be served on parties and they may file timely exceptions thereto with the Board of Land Appeals.		x		x		
43 CFR Part 4, Subpart J	Special Rules Applicable to the Alaska Native Claims Settlement Act Hearings and Appeals.	New regulations to revise and clarify present procedural rules and to carry out Secretarial policy decisions on (1) Alaska Native Claims Appeal Board jurisdiction over appeals by persons claiming rights under § 14(c) of the Alaska Native Claims Settlement Act, (2) requirement for standing to appeal, (3) standards for review and burden of proof, and (4) procedure for hearing on questions of fact.		x		x	Proposed Rule February 1979, Final Rule March 1979.	Judith M. Brady, Chairman, Alaska Native Claims Appeal Board, P.O. Box 2433, Anchorage, Alaska 99510, 907-265-5356.
43 CFR Part 4, Subpart L	Special Rules Applicable to Surface Coal Mining Hearings and Appeals.	New regulations to provide additional procedural rules for hearings under the permanent regulatory program of the Office of Surface Mining Reclamation and Enforcement.		x		x	Proposed Rule March 1979, Final Rule May 1979.	Bruce R. Harris, 703-557-9037.

AGENDA OF REGULATIONS SCHEDULED FOR REVIEW OR DEVELOPMENT: JANUARY–JUNE 1979—Continued

CFR citation	Subject	Purpose of review/ development	Significant		Regulatory Analysis		Expected dates(s) of publication (if known)	Knowledgeable official
			Yes	No	Yes	No		
BUREAU/OFFICE: OFFICE OF INSPECTOR GENERAL								
43 CFR pt. 20	Employee Responsibilities and Conduct.	The Ethics in Government Act of 1978, Pub. Law 95-521 signed by the President on 10-26-78, contains provisions which require a complete revision of existing conflict of interest rules and regulations.		x		x		Gabe Paone, 343-3932.
30 CFR pt. 705 and pt. 706	Surface Mining Control and Reclamation Restrictions of Financial Interests of State and Federal Employees.	Changes to these regulations are necessary to clarify problem areas identified after applying the regulations in the first year. Changes will include clarifying definitions and inserting language to simplify Department policy policy.		x		x		Gabe Paone, 343-3932.
43 CFR 7	Employees: Interest in Lands and Resources.	These regulations must be revised to eliminate contradictions with 43 CFR pt. 20.		x		x		Gabe Paone, 343-3932.
BUREAU/OFFICE: OFFICE FOR EQUAL OPPORTUNITY								
43 CFR Part 34	Nondiscrimination in Activities Conducted under and Authorized By Pub. L. 94-586; Alaska Gas Pipeline.	To implement Section 17 of the Alaska Natural Gas Transportation Act. A determination of significance and the decision on preparation of a regulatory analysis have not been made at this time.						Sharon White, Office of the Solicitor, 343-2162.
43 CFR Part 17, Subpart B	Nondiscrimination on the Basis of Handicap.	To implement Section 504 of the Rehabilitation Act of 1973, 29 U.S.C. 794, regarding federally-assisted programs administered by the Department. The decision on preparation of a regulatory analysis has not been made at this time.	x				Notice of Intent January 1979.	Alton Hancock, Office of the Solicitor, 343-6346.
43 CFR Part 17, Subpart C	Nondiscrimination on the Basis of Age.	To implement the Age Discrimination Act of 1975 (42 U.S.C. 6101, *et seq.*). This subpart will be based on guidelines developed by HEW.		x		x		James Poole, 343-4331.
BUREAU/OFFICE: GEOLOGICAL SURVEY, NATIONAL CENTER, RESTON, VA 22092 (AREA CODE 703)								
30 CFR Part 241	Leasing and acquisition of water wells.	Update regulations to provide a more practical mechanism for complying with statutory requirements.		x		x	Proposed rule March 1979.	Charles Sours, 860-7521.
30 CFR Part 251	Geological and geophysical exploration of the Outer Continental Shelf.	Implement the Outer Continental Shelf Lands Act Amendments of 1978.		x		x	Proposed rule January 1979. Final rule May 1979.	Bruce Weetman, 860-7564.
30 CFR Part 252	Oil and gas information program.	Implement the Outer Continental Shelf Lands Act Amendments of 1978.		x		x	Proposed rule January 1979. Final rule May 1979.	Bruce Weetman, 860-7564.
BUREAU/OFFICE: BUREAU OF MINES, 2401 E STREET, NW., WASHINGTON, D.C. 20241 (AREA CODE 202)								
30 CFR 601	Sales of Helium by and Rental of Containers from Bureau of Mines.	Revise fee schedule to reflect increases in costs since 1977.		x		x		Ray D. Munnerlyn, 634-4734.

AGENDA OF REGULATIONS SCHEDULED FOR REVIEW OR DEVELOPMENT: JANUARY–JUNE 1979—Continued

CFR citation	Subject	Purpose of review/development	Significant		Regulatory Analysis		Expected date(s) of publication (if known)	Knowledgeable official
			Yes	No	Yes	No		
BUREAU/OFFICE: OFFICE OF SURFACE MINING, RECLAMATION AND ENFORCEMENT								
30 CFR Chapter VII Subchapter R Part 875.	Reclamation Standards	To implement legislation (Pub. L. 95-87, Title IV).	x			x	Notice of Intent February 1979, Proposed Rule March 1979.	M. Richard Nalbandian, 343-4057.
BUREAU/OFFICE: BUREAU OF LAND MANAGEMENT								
43 CFR Part 1600	Planning, programming and budgeting.	Write regulations incorporating the Bureau of Land Management's planning system into its regulations.	x			x	Final rulemaking about 6/1/79.	R. Jones, 343-5682. R. C. Bruce, 343-8735.
43 CFR Part 1700	Advisory Councils	Revise regulations to incorporate policies and procedures of the Federal Land Policy and Management Act of 1976.		x		x	Proposed rulemaking early 1979.	L. Laitala, 343-5629. R. C. Bruce, 343-8735.
43 CFR Part 2200	Exchanges of Public Lands	Revise regulations to incorporate policies and procedures of the Federal Land Policy and Management Act of 1976.		x		x	Pre-proposed in early 1979.	M. Millenbach, 343-8731. R. C. Bruce, 343-8735.
43 CFR Part 2300	Withdrawal of public lands	Revise regulations to incorporate the policies and procedures of the Federal Land Policy and Management Act of 1976.		x		x	Proposed rulemaking 6/79.	R. C. Bruce, 343-8735.
43 CFR Parts 2540, 2740, and 9180.	Color-of-Title and Omitted Lands.	Revise regulations to incorporate policies and procedures of the Federal Land Policy and Management Act of 1976.		x		x	Final rulemaking about 5/1/79.	S. Spector, 343-8738. R. C. Bruce, 343-8735.
43 CFR Part 2610	Carey Act Grants	Re-institute regulations withdrawn because of program inactivity and bring them into conformance with existing programs.		x		x	Final rulemaking in early 1979.	M. Millenbach, 343-8731. R. C. Bruce, 343-8735.
43 CFR Part 2740	Recreation and Public Purposes Act.	Revise regulations to incorporate policies and procedures of the Federal Land Policy and Management Act of 1976.		x		x	Proposed rulemaking 1/79.	M. Millenbach, 343-8731. R. C. Bruce, 343-8735.
43 CFR Part 2800	Rights-of-way; principles and procedures.	Revise regulations to incorporate policies and procedures of the Federal Land Policy and Management Act of 1976.		x		x	Proposed rulemaking by 6/79.	J. Stephenson, 343-5441. R. C. Bruce, 343-8735.
43 CFR Part 2880	Rights-of-way under the Mineral Leasing Act.	Revise regulations to incorporate policies and procedures of the Federal Land Policy and Management Act of 1976.		x		x	Final rulemaking in early 1979.	J. Stephenson, 343-5441. R. C. Bruce, 343-8735.
43 CFR Subpart 3802	Surface protection, Wilderness.	Write regulations providing protection for the surface area of wilderness study areas from mining activity under the 1872 Mining Law.	x		x		Proposed rulemaking 1/12/79; Final rulemaking May 1979.	R. Anderson, 343-7722. R. C. Bruce, 343-8735.
43 CFR Subpart 3809	Surface Management of unpatented mining claims located on public lands.	Write regulations providing protection of the public lands from undue degradation from mining activity under the 1872 Mining Law.	x		x		Proposed rulemaking February 28, 1979, Final rulemaking August 1979, Effective November 1.	Robert Anderson, 343-7722. Robert C. Bruce, 343-8735.
43 CFR Subpart 3828	Surface Management of unpatented mining claims located in the California Desert Cons. Area.	Write regulations providing protection of the public lands in the California Desert Conservation area from undue degradation under the 1872 Mining Law.	x		x		Proposed rulemaking February 1979, Final rulemaking May 1979.	Robert Anderson, 343-7722. Robert C. Bruce, 343-8735.
43 CFR Part 4100	Amendments to the Grazing Administration and Trespass Regulations.	Revise regulations to incorporate changes made by the Public Rangelands Improvement Act.		x		x	Proposed rulemaking early in 1979.	David Little, 343-6011. Robert C. Bruce, 343-8735.

AGENDA OF REGULATIONS SCHEDULED FOR REVIEW OR DEVELOPMENT: JANUARY-JUNE 1979—Continued

CFR citation	Subject	Purpose of review/ development	Significant		Regulatory Analysis		Expected dates(s) of publication (if known)	Knowledgeable official
			Yes	No	Yes	No		
BUREAU/OFFICE: BUREAU OF LAND MANAGEMENT—Continued								
43 CFR Section 4130.5	Amending the Grazing Regulations as they relate to the Grazing Fee.	Revise regulations to incorporate changes made by the Public Rangelands Improvement Act.		x		x	Final rulemaking in early 1979.	Ronald J. Younger, 343-6011. Robert C. Bruce, 343-8735.
43 CFR Part 8340	Management of the use of Off-Road Vehicles on the public lands.	Write regulations to provide for the management of the use of off-road vehicles on the public lands.	x			x	Final rulemaking in early 1979.	Larry R. Young, 343-9353. Cecil Feeney, 343-8735.
43 CFR Part 4300	Coal Leasing	Revise regulations relating to the coal management program ensuring a complete understanding of the preferred program and how it will be implemented. The decision on preparation of a regulatory analysis has not been made at this time. A notice of intent was published in the Federal Register on December 15, 1978.	x				Proposed Rule March 1979. Final Rule June 1979.	Don Mitchell, 343-4537.
BUREAU/OFFICE: BUREAU OF RECLAMATION								
43 CFR 21	Occupancy of Cabin Sites	To review and make recommendations for modifications and changes if necessary.		x		x		T. G. Cooper, 343-5204.
43 CFR 401	Entry on Reclamation Lands.	To bring the CFR into compliance with requirements of P.L. 94-579 (FLPMA).		x		x		T. G. Cooper, 343-5204.
43 CFR 402	Sale of Small Tracts	To bring the CFR into compliance with requirements of P.L. 94-579.		x		x		T. G. Cooper, 343-5204.
43 CFR 403	Unproductive Land	To bring the CFR into complianes with the requirements of P. L. 94-579..		x		x		T. G. Cooper, 343-5204.
43 CFR 406	Exchange or amendment of Farm Units.	To bring the CFR into compliance with requirements of P.L. 94-579.		x		x		T. G. Cooper, 343-5204.
43 CFR 416	Reclassification of Highland Columbia Project.	To determine the necessity for the continuation in effect of the CFR or needed modifications.		x		x		T. G. Cooper, 343-5204.
43 CFR 417	Procedural Methods for Implementing Colorado River Water Conservation Measures with Lower Basin Contractors and Others.	To determine if changes in existing rules are required in order to conserve water in the lower Colorado River Basin.		x		x		Roy H. Boyd, 343-5471.
43 CFR 418	Newlands Reclamation Project, Nevada; Truckee River Storage Project, Nevada; and Washoe Reclamation Project, Nevada-California (Truckee and Carson River Basins, Californi-Nevada); Pyramid Lake Indian Reservation, Nevada; Stillwater Area, Nevada.	To determine if changes in existing rules are required in order to conserve water in the Truckee and Carson River Basins.		x		x		Roy H. Boyd, 343-5471.
43 CFR 420	Off Road Vehicle Use	This was published as a proposed ruel in the Federal Register on August 22, 1978.		x		x	Final Rule January 1979.	T. G. Cooper, 343-5204.
BUREAU/OFFICE: U.S. FISH AND WILDLIFE SERVICE								
50 CFR Part 26	National Wildlife Refuge System—public entry and use.	To review for clarity, necessity, and conciseness, ensure that material is complete and current, and identify those rules that impose unnecessary burdens on the economy. E.O.12044 and 43 CFR 14.		x		x		Marcus Nelson, 343-4791.

AGENDA OF REGULATIONS SCHEDULED FOR REVIEW OR DEVELOPMENT: JANUARY–JUNE 1979—Continued

BUREAU/OFFICE: U.S. FISH AND WILDLIFE SERVICE—Continued

CFR citation	Subject	Purpose of review/ development	Significant		Regulatory Analysis		Expected dates(s) of publication (if known)	Knowledgeable official
			Yes	No	Yes	No		
50 CFR Part 32	Hunting on wildlife refuge areas.	......do		x		x		Marcus Nelson, 343-4791
50 CFR Part 33	Sport fishing on wildlife refuge areas.	......do		x		x		Marcus Nelson, 343-479.
50 CFR Part 80	Federal aid to States in fish and wildlife restoration.	To review with objective of reducing paperwork burden on States conducting fish and wildlife restoration projects. Significance and necessity of regulatory analysis is undetermined pending results of review.						Charles Phenicle, 703-235-1526
50 CFR Part 18	Marine mammals—manatee protection areas.	To develop rules that provide procedures for establishing areas in which certain waterborne activities would be restricted or prohibited (16 U.S.C. 1361-1407)..		x		x	Proposed rule February, 1979, Final rule May, 1979.	Norman Johnson, 632-2202.
50 CFR Part 20 Subpart K	Hunting of migratory birds..	To develop rules establishing 1979-80 annual seasons, limits, and shooting hour schedules for migratory birds. Dates of proposed and final rules uncertain (16 U.S.C. 703-711).		x		x	Notice of intent February, 1979.	Clark Bavin, 343-9242. John P. Rogers, 254-3207.
50 CFR Part 403	Fish and Wildlife Coordination Act.	To implement the Fish and Wildlife Coordination Act which concerns the conservation of wildlife in projects involving the control or modification of any stream or other body of water. This Part is being developed in coordination with the Department of Commerce. The decision on preparation of a regulatory analysis has not been made at this time. A notice of intent was published in the Federal Register on September 29, 1978.	x					Karl Stutzman, 343-5715. Bill Garner, Office of the Solicitor, 343-2172,

BUREAU/OFFICE: NATIONAL PARK SERVICE

CFR citation	Subject	Purpose of review/ development	Significant		Regulatory Analysis		Expected dates(s) of publication (if known)	Knowledgeable official
			Yes	No	Yes	No		
36 CFR Part 2	Public Use and Recreation...	Several amendments to existing regulations have been proposed that would reduce the number of special regulations required in Part 7.		x		x		Michael Finley, 343-5607.
36 CFR Part 7	Special Regulations of the National Park System.	These regulations are submitted by individual park areas. The scope and application of the regulations is limited to a particular problem in a specific unit of the National Park System as opposed to the System as a whole. The number and frequency of these regulations cannot be determined at this time.		x		x		Michael Finley, 343-5607.
36 CFR Pts. 2 and 7	Public Use and Recreation; Special Regulations of the National Park System.	Regulations in these parts will require review and may require revision in order to comply with Public Law 94-341 and insure that these regulations do not infringe upon native American traditional religious/ceremonial rights and practices.		x		x		George Gowans, 343-7456.

AGENDA OF REGULATIONS SCHEDULED FOR REVIEW OR DEVELOPMENT: JANUARY-JUNE 1979—Continued

CFR citation	Subject	Purpose of review/ development	Significant		Regulatory Analysis		Expected dates(s) of publication (if known)	Knowledgeable official
			Yes	No	Yes	No		
BUREAU/OFFICE: HERITAGE CONSERVATION AND RECREATION SERVICE, 440 G STREET, NW, WASHINGTON, D.C. 20233 (AREA CODE 202)								
36 CFR Part 1205	National Historic Landmarks.	To amend to reflect new Departmental policies and to transfer from 36 CFR Part 69.		x		x		George F. Emery, 343-6404.
36 CFR Part 1210	Recovery of Scientific, Prehistoric, Historic, and Archeological Data: Procedures for Notification, Reporting, and Data Recovery Operations.	To codify existing procedures and standards for Archeological and Historic Preservation Act of 1974 (Pub. L. 93-291) and to transfer from 36 CFR Part 66.		x		x		L. E. Aten, 343-7105.
36 CFR Part 1230	Land and Water Conservation Fund State Assistance Program.	To provide a general presentation on the existing requirements and procedures concerning administration of the Land and Water Conservation Fund program. This Part will reference the Heritage Conservation and Recreation Service Grants Manual as the official instrument for providing detailed program guidance.		x		x	Proposed Rule April, 1979.	Rowland Bowers, 343-7801.
36 CFR Part 1228	Urban Park and Recreation Recovery Program.	To develop eligibility criteria and a list of those cities eligible for this program as required by Pub. L. 95-625.	x			x	Interim Rule March, 1979.	Sam L. Hall, 343-5971.
		Other sections of this Part will also be developed to present the administrative and recovery action programs. The decision on the preparation of a regulatory analysis has not been made at this time.	x					Do.
BUREAU/OFFICE: BUREAU OF INDIAN AFFAIRS								
25 CFR Part 47	Revision of the Membership Roll of the Eastern Band of Cherokee Indians, North Carolina.	To determine status and need.		x		x		John Geary, 343-2678.
25 CFR Part 48	Enrollment of Indians of the San Pasqual Band of Mission Indians in California.	do		x		x		Do.
25 CFR Part 20	Financial Assistance and Social Services Program.	To revise current near reservation definition for clarity.		x		x		Do.
25 CFR Part 91	Loans to Indians from the Revolving Loan Fund.	Sections of this Part are scheduled for review as required by current Departmental directives (43 CFR Part 14).		x		x		Robert Nordstrom, 343-5804.
25 CFR Part 163	Establishment of Roadless and Wild Areas on Indian Reservations.	To define a roadless area		x		x		Robert Fleak, 343-9433.
25 CFR Part 41	Preparation of Rolls of Indians-Qualifications for Enrollment and Deadlines for Filing.	To include qualifications for enrollment and deadlines for filing for enrollment with tribes for whom the Secretary is preparing rolls to be used in the distribution of judgment funds as required by Act of October 19, 1973, or other specific Acts of Congress.		x		x		John Geary, 343-2678.
25 CFR Part 42	Enrollment Appeals	Amend to more accurately reflect the purpose of the Part.		x		x	Final Rule March, 1979.	Do.

AGENDA OF REGULATIONS SCHEDULED FOR REVIEW OR DEVELOPMENT: JANUARY-JUNE 1979—Continued

CFR citation	Subject	Purpose of review/ development	Significant		Regulatory Analysis		Expected dates(s) of publication (if known)	Knowledgeable official
			Yes	No	Yes	No		
BUREAU/OFFICE: BUREAU OF INDIAN AFFAIRS—Continued								
25 CFR Part 43g	Preparation of a Roll to Serve as the Basis for the Distribution of Judgment Funds awarded to the Pembina Band of Chippewa Indians.	To determine status and need.		x		x		John Geary, 343-2678.
25 CFR Part 43h	Preparation of a Roll of Alaska Natives.	do		x		x		Do.
25 CFR Part 43i	Preparation of a Roll to Serve as the Basis for the Distribution of Judgment Funds awarded Certain Warm Springs Indians.	do		x		x		Do.
25 CFR Part 43n	Preparation of a Roll for Distribution of Grand River Ottawa Judgment Funds.	do		x		x		Do.
25 CFR Part 43p	Revision of Membership Roll of Confederated Tribes of Siletz Indians of Oregon.	do		x		x		Do.
25 CFR Part 46	Enrollment of Indians of the Rincon, San Luiseno Band of Mission Indians in California.	do		x		x		Do.
25 CFR Part 252	Business Practices on the Navajo, Hopi and Zuni Reservations.	To evaluate suggested revisions proposed by field offices of the Bureau.		x		x	Proposed Rule January, 1979.	Eugene Suarez, Sr., 343-5786.
41 CFR Part 14H	Buy Indian Act Contracting	To set forth Bureau policy with regard to contracting in regulation form.		x		x	Notice of Intent February, 1979.	Donald F. Asbra, 703-235-8061.
25 CFR Part 120a	Land Acquisition	This Part, governing acquisition of trust or restricted lands, is being developed to conform to statutory requirements.		x		x		Raymond W. Jackson, Phoenix Area Office, P.O. Box 7707, Phoenix, AZ 85011, 602-261-4195.
25 CFR Part 182	Oil and Gas Contracts	This Part is scheduled for review as required by current Departmental directives (43 CFR Part 14).		x		x		George Skibine, 343-5473.
25 CFR Part 121	Issuance of Patents in Fee, Certificates of Competency, Removal of Restrictions, and Sale of Certain Indian Lands.	This Part is scheduled for review as required by current Departmental directives (43 CFR Part 14).		x		x		Jack Daughtery, Musk Area Office, Muskogee, OK 74401, 918-687-2291.
25 CFR		Rules must be developed to implement certain legislation. As of this date, part numbers have not been assigned. The legislation are:						
		Pub. L. 95-561, Title XI—Education Act Amendments.		x		x		Elizabeth Holmgren, 343-3151.
		Pub. L. 95-471—The Indian Controlled Community College Act.		x		x		Do.
		Pub. L. 94-142—Education of the Handicapped Act.		x		x		Do.

STATUS OF REGULATIONS PREVIOUSLY SCHEDULED FOR REVIEW: MAY-DECEMBER 1978

CFR citation	Subject	Status	Knowledgeable official
BUREAU/OFFICE: OFFICE OF THE SOLICITOR			
43 CFR Part 1	Practices before the Department of the Interior.	This regulation is still being reviewed and should be published as proposed rulemaking in January, 1979.	John D. Trezise, 343-5216.
43 CFR Part 6	Patent Regulations	This regulation is still being reviewed and should be published as proposed rulemaking in February, 1979.	D. A. Gardiner, 343-4471. Gersten Sadowsky, 343-4471.
BUREAU/OFFICE: OFFICE OF INSPECTOR GENERAL			
43 CFR Part 20	Employee Responsibilities and Conduct.	Legislation requiring revision of this part was signed by the President on October 26, 1978. (Pub. Law 95-521) This legislation creates an Office of Government Ethics in the Office of Personnel Management (Formerly CSC). This new office is charged with developing regulations which are to be used by all federal agencies as guidelines for developing individual agency regulations (Pub. Law 95-521, Section 207). These guideline regulations are expected in early 1979 and 43 CFR pt. 20 will be completely revised in accordance with guidelines received. During the interim period (between now and the time guidelines are received from OPM) significant changes, appendix updates and addition of requirements under Pub. Law 95-372 will be published as amendments to 43 CFR pt. 20. (Expected publication date is January, 1979.).	Gabe Paone, 343-3932.
BUREAU/OFFICE: BUREAU OF MINES, 2401 E STREET, NW., WASHINGTON, D.C. 20241 (AREA CODE 202)			
30 CFR Part 610	Coal analysis for non-Federal applicants.	Formally transferred to the Department of Energy on September 26, 1978. Notice published on page 43459 of the FEDERAL REGISTER.	William Schmidt, Department of Energy, 703-235-2700.
30 CFR Part 651	Bureau of Mines grant programs	Removal of references to MSHA are being held in abeyance pending development of policy regarding grants administration by the Department of the Interior.	Joseph Herickes, 634-4704.

STATUS OF REGULATIONS PREVIOUSLY SCHEDULED FOR REVIEW: MAY-DECEMBER 1978—Continued

CFR citation	Subject	Status	Knowledgeable official
BUREAU/OFFICE: GEOLOGICAL SURVEY, NATIONAL CENTER, RESTON, VA 22092 (AREA CODE 703)			
30 CFR Part 211	Coal mining operating regulations	Published as final August 22, 1978 (43 FR 163). However, due to revised Office of Surface Mining regulations, these are now being revised and are scheduled to be published as proposed rules in January 1979 and final in March 1979.	Tom Leshendok and Don Ziehl, 860-7506.
30 CFR Part 221	Oil and gas operating regulations	Proposed general revisions to be published in June 1979. Proposed section concerning liquidated damages published as proposed in June 1977 (42 FR 124). Final to be published in April 1979.	Eddie R. Wyatt, 860-7535.
30 CFR Part 250	Oil and gas and sulphur operations in the Outer Continental Shelf.	Scheduled to be published as proposed rule in January 1979. Final rule to be published in May 1979.	Richard Krahl, 860-7531.
30 CFR Part 270	Geothermal resources operations on public, acquired and withdrawn lands.	Published as proposed rule in February 1978 (43 FR 22). Final to be published in April 1979.	Eddie R. Wyatt, 860-735.
43 CFR Part 3100	Oil and gas leasing	To be published as a Notice to clarify the effective date of known geologic structure (KGS) determinations.	Charles Sours, 860-7521.
BUREAU/OFFICE: OFFICE OF WATER RESEARCH AND TECHNOLOGY			
18 CFR Chapter IV	Office of Water Resources Research, Department of the Interior.	The present chapter provides the rules of the Secretary of the Interior for implementation of the Water Resources Research Act of 1964. As this Act has been repealed and superseded by the Water Research and Development Act of 1978 (Pub. L. 95-467), this chapter must be revised to reflect the provisions of the new law. It is estimated that a proposed revision will be published in June, 1979.	F. W. Koop, 343-4607. George Cassaday, 343-4607.
BUREAU/OFFICE: BUREAU OF LAND MANAGEMENT			
43 CFR Group 2900	Land use, occupancy, and development.	Pre-proposed rulemaking has been drafted, reviewed in the Bureau of Land Management and is currently under review in the Department.	Mathew Millenbach, 343-8731. Robert C. Bruce, 343-8735.
43 CFR Group 2700	Land disposal (sales)	Pre-proposed rulemaking has been drafted, reviewed in the Bureau of Land Management and is currently under review in the Department.	Stephen H. Spector, 343-8738. Robert C. Bruce, 343-8735.
43 CFR Group 4000	Grazing Administration	Published in final rulemaking form in the FEDERAL REGISTER on July 5, 1978.	Max T. Lieurance, 343-6011. Robert C. Bruce, 343-8735.
43 CFR Part 6260	Recreation management	Published in final rulemaking form in the FEDERAL REGISTER on February 24, 1978.	Larry R. Young, 343-9355. Billy R. Templeton, 343-8735.

STATUS OF REGULATIONS PREVIOUSLY SCHEDULED FOR REVIEW: MAY-DECEMBER 1978—Continued

CFR citation	Subject	Status	Knowledgeable official
43 CFR Group 3800	Recordation of mining claims	Final rulemaking has been drafted, reviewed in the Bureau of Land Management and is currently under review in the Department. Final rulemaking is expected to be published in January, 1979.	Gene Carlat, 343-7723. Robert C. Bruce, 343-8735.
BUREAU/OFFICE: BUREAU OF RECLAMATION			
43 CFR Part 405	Certain Lands Sought to be Covered by Recordable Contracts; Columbia Basin Project.	Part 405 provides for implementation of Section 2 of the Columbia Basin Project Act. That Section was repealed in its entirety by the Act of October 1, 1962. Therefore, these regulations are no longer needed and will be removed in January, 1979.	Vernon S. Cooper, 343-2148.
43 CFR Part 409	Leasing and Utilization of Lands in Page, Arizona.	All subject lands have been turned over to the City of Page. Therefore, these regulations are no longer needed and will be removed in January, 1979.	David Williamson, 343-5204.
43 CFR Part 430	Rules for Management of Lake Berryessa.	Procedures were determined to be adequate as stated. No changes are recommended.	David Williamson, 343-5204.
BUREAU/OFFICE: NATIONAL PARK SERVICE			
36 CFR Parts 1-4	Miscellaneous provisions; public use and recreation boating; and vehicles and traffic safety.	These revsions are scheduled for publication in January of 1979 as proposed rules.	Michael Finley, 343-5607.
36 CFR Part 3	Boating	These regulations are currently under review and revision. A publication date has not been set.	James Carrico, 343-5607.
36 CFR Part 5	Commercial and Private Operations.	These regulations are currently under review and revsion. A publication date has not been set.	Richard Tousley, 343-4874.
BUREAU/OFFICE: U.S. FISH AND WILDLIFE SERVICE			
50 CFR Part 17	Endangered and threatened wildlife and plants.	This part will require further review due to the extensive 1978 amendments (Pub. L. 95-632) to the Endangered Species Act.	John Spinks, 703-235-2771. Clark Bavin, 202-343-9242. Richard Parsons, 703-235-1937.
50 CFR Part 18, Subpart C	Marine mammals general exceptions.	To relieve an existing burden on the public, a proposed rule is being considered that would exempt fossil ivory from registration. Publication dates are uncertain.	Clark Bavin, 202-343-9242.
50 CFR Part 18, Subpart F	Marine mammals—State laws and regulations.	A revision was published as a final rule on October 2, 1978, (43 FR 45370), which clarified procedures and criteria for obtaining a waiver of the moratorium on marine mammals.	Norman Johnson, 202-632-2202. Clark Bavin, 202-343-9242.
50 CFR Part 19	Airborne hunting	This part is current and a revision is not necessary.	Clark Bavin, 202-343-9242.

STATUS OF REGULATIONS PREVIOUSLY SCHEDULED FOR REVIEW: MAY-DECEMBER 1978—Continued

CFR citation	Subject	Status	Knowledgeable official
50 CFR Part 20	Migratory bird hunting	To reduce costs and preclude possible confusion on the part of the public in reading non-current rules codified in 50 CFR, a proposed rule will be published in January, 1979, to eliminate codification of the annual seasons, limits, and shooting hour schedules—which are published in the daily issues of the FEDERAL REGISTER.	John P. Rogers, 202-254-3207.
50 CFR Part 21	Migratory bird permits	To permit raptor propagation, a proposed rule is being considered that would implement the raptor amendment to the Endangered Species Act. Publication dates are uncertain.	Clark Bavin, 202-343-9242.
50 CFR Part 22	Eagle permits—acts protecting bald and golden eagles.	This part will require further review due to a recent U.S. district court decision that suggested the need of a registration system for possession of pre-Act(s) feathers.	Clark Bavin, 202-343-9242.
50 CFR Part 25	National Wildlife Refuge System—administrative provisions.	A proposed rule on closing National Wildlife Refuges was published on August 24, 1978, (43 FR 37732). The final rule should be published in January, 1979.	Ronald Fowler, 202-343-4305.
BUREAU/OFFICE: HERITAGE CONSERVATION AND RECREATION SERVICE, 440 G STREET NW., WASHINGTON, D.C. 20243 (AREA CODE 202)			
36 CFR Part 61	Criteria for Comprehensive Statewide Historic Surveys and Plans.	To evaluate the effectiveness of the existing interim regulations and publish them in final. To incorporate changes reflecting the creation and reorganization of the Heritage Conservation and Recreation Service. To transfer to 36 CFR Part 1201. It is expected that a final rule will be published in May, 1979.	Carol Shull, 343-5221.
43 CFR Part 31	Grants and Allocations for Recreation and Conservation Use of Abandoned Railroad Rights-of-Way.	This Part will be retained since it contains the compliance standards for nine projects approved in fiscal year 1978. It is expected that the contents of this Part will be transferred to 36 CFR Part 1226 in January, 1979.	Rowland T. Bowers, 343-7801.
BUREAU/OFFICE: BUREAU OF INDIAN AFFAIRS			
25 CFR Part 252	Business Practices on the Navajo, Hopi and Zuni Reservations.	This part has been reviewed and changes have been recommended to waive or reduce bond requirements for reservation businesses on the Navajo reservation owned and operated by members of the Navajo tribe.	Eugene Suarez, Sr. 343-5786.
25 CFR Part 251	Licensed Indian Traders	The Bureau of Indian Affairs has determined that this Part is current and a revision is not necessary.	Do.
25 CFR Part 261	Housing Improvement Program Eligibility.	......do	G. Ronald Peake, 343-4876.

STATUS OF REGULATIONS PREVIOUSLY SCHEDULED FOR REVIEW: MAY-DECEMBER 1978—Continued

CFR citation	Subject	Status	Knowledgeable official
25 CFR Part 34	Vocational Training for Adult Indians.	Proposed revision published in the FEDERAL REGISTER on October 14, 1977. Final rule should be published before December 31, 1978.	John Jollie, 343-7408.
25 CFR Part 80	Indian Business Development Program.	A further review is being considered to determine the status of this program.	Robert Nordstrom, 343-5804.
25 CFR Part 93	Loan Guaranty Insurance and Interest Subsidy.	The Bureau of Indian Affairs has determined that this Part is current and a revision is not necessary.	Do.
25 CFR Part 271	Contents under Indian Self-Determination Act.	The Bureau of Indian Affairs in consultation with the Indian people has determined that this Part is current and a revision is not necessary.	Dr. Helen Miller, 343-4796.
25 CFR Part 21	Arrangement of States, Territories or other agencies for relief of distress and social welfare of Indians.	This Part is still under review and will continue during the January-June, 1979 review period.	John Geary, 343-2678
25 CFR Part 171	Leasing of Tribal Lands for Mining.	Proposed revision published in the FEDERAL REGISTER on April 5, 1978 (43 FR 18083). Final rule being processed and will be published in January, 1979.	George Skibine, 343-5473.
25 CFR Part 177	Plans for Prospecting and Mining on Indian Mineral Lands: Reclamation of Non-Mineral Resources.	......do	Do
25 CFR Part 183	Leasing of Osage Reservation Lands for Oil and Gas Mining.	The Bureau of Indian Affairs has determined that this Part is current and a revision is not necessary.	Do.
25 CFR Part 161	Rights-of-way over Indian Lands...	Proposed revision published in the FEDERAL REGISTER on July 7, 1978 (43 FR 29317). Final rule being processed and will be published in January, 1979.	Richard McDermot, Palm Springs Area, Field Office, 587 S. Palm Canyon Dr., Palm Springs, CA 92262, 714-325-2163
25 CFR Part 104	Individual Indian Money Accounts.	This Part is still under review and will continue during the January-June, 1979 review period.	Shirley M. Crosby, 343-8216.
25 CFR Part 105	Deposit of Indian Funds in Banks.	......do	Do.
25 CFR Part 141	General Forest Contracts	......do	Do.
CFR Part 174	Leasing of Restricted Lands of Members of Five Civilized Tribes, Oklahoma for Mining.	......do	Do.
25 CFR Part 22	Care of Indian Childrens in Contract Schools.	This Part is still under review and will continue during the January-June, 1979 review period.	John Geary, 343-2678.
25 CFR Part 162	Roads of the Bureau of Indian Affairs.	The Bureau of Indian Affairs has determined that this Part is current and a revision is not necessary.	Robert Fleck, 343-9433.
25 CFR Part 273	Education Contracts Under Johnson-O'Malley Act.	This Part will be revised to incorporate the provisions of Pub. L. 95-561 (November 1, 1978) which amends the Johnson-O'Malley Act.	Elizabeth Holmgren, 343-3151.
25 CFR Part 274	School Construction Contracts or Services for Tribally Operated, Previously Private Schools.	This Part is still under review and will continue during the January-June, 1979 review period.	Bill Henry, Division of Facilities Engineering, P.O. Box 1248, 500 Gold Ave, SW, Albuquerque, NM 87103, 505-766-2825.
25 CFR Part 277	School Construction Contracts for Public Schools.	......do	Do.

[FR Doc. 79-3167 Filed 1-30-79; 8:45 am]

[4310-05-M]

Office of Surface Mining, Reclamation and Enforcement

AVAILABILITY OF MINE PLAN

AGENCY: Office of Surface Mining Reclamation and Enforcement.

ACTION: Surface Mining and Reclamation Plan.

SUMMARY: Pursuant of Section 211.5(b) of Title 30, CFR, Notice is hereby given that the Office of Surface Mining has received the following mine plan for a coal mining and reclamation operation on Federal Coal Lands:

LOCATION OF LANDS

Applicant: Farrell-Cooper Mining Company.
Mine property name: Red Oak Mine.
State: Oklahoma.
County: Latimer.
OSM reference number: 36-0001.
General description of affected lands: Approximately 70 acres of two retricted Indian leases (nos. 69229 and 69231) located in Section 5, T6N, R22E.

This mine plan is available for public review in the Library of Region IV, Office of Surface Mining, 818 Grand Avenue, Scarritt Building, Floor 5, Kansas City, Missouri 64106 and Office of Surface Mining, 333 West Fourth Street, Room 3432, Tulsa, Oklahoma 74103.

This Notice is issued at this time for the convenience of the public. The OSM has not yet determined whether the plan is adequate and may, during the course of its review, request additional information. Any additional information so obtained will also be available for public review. Prior to a final decision on this mine plan, the Office of Surface Mining will issue a Notice of Pending Decision pursuant to 211.5(c)(2) of Title 30, Code of Federal Regulations.

DATES: Comments on or objections to the plan should be received by the Region IV Office not later than 30 days following the date of publication of this announcement.

ADDRESSES: Comments should be sent to the Regional Director, Office of Surface Mining, Reclamation and Enforcement, Region IV, 818 Grand Avenue, Scarritt Building, Kansas City, Missouri 64106.

FOR FURTHER INFORMATION CONTACT:

Chief, Division of Technical Services, Office of Surface Mining, Region IV, 818 Grand Avenue, Scarritt Building, Kansas City, Missouri 64106. Telephone: 816/374-5770 or FTS 758-5770.

WALTER N. HEINE,
Director, Office of Surface Mining, Reclamation and Enforcement.

[FR Doc. 79-4633 Filed 2-8-79; 8:45 am]

[4310-05-M]

AVAILABILITY OF MINE PLAN

AGENCY: Office of Surface Mining Reclamation and Enforcement.

ACTION: Underground Mining and Reclamation Plan.

SUMMARY: Pursuant to Section 211.5(b) of Title 30, CFR, Notice is hereby given that the Office of Surface Mining has received the following mine plan for a coal mining and reclamation operation on Federal Coal Lands:

LOCATION OF LANDS

Applicant: CF & 1 Steel Corporation.
Mine property name: Bokoshe Project Mines.
State: Oklahoma.
County: Le Flore.
OSM reference number: 36-0002.
General description of affected lands: SE¼SE¼ Sec. 7; SW¼SW¼ sec. 8; All Sec. 17; E½SE¼, SW¼SE¼, SE¼SW¼. sec. 18; E½NW¼SW¼, E½ sec. 19; All Sec. 20; N½N½ Sec. 30; R. 8 N., E. 24 E.

This mine plan is available for public review in the Library of Region IV, Office of Surface Mining, 818 Grand Avenue, Scarritt Building, Floor 5, Kansas City, Missouri 64106, and Office of Surface Mining, 333 West Fourth Street, Room 3432, Tulsa, Oklahoma 74103.

This Notice is issued at this time for the convenience of the public. The OSM has not yet determined whether the plan is adequate and may, during the course of its review, request additional information. Any additional information so obtained will also be available for public review. Prior to a final decision on this mine plan, the Office of Surface Mining will issue a Notice of Pending Decision pursuant to 211.5(c)(2) of Title 30, Code of Federal Regulations.

DATES: Comments on or objections to the plan should be received by the Region IV Office not later than March 12, 1979.

ADDRESSES: Comments should be sent to the Regional Director, Office of Surface Mining, Reclamation and Enforcement, Region IV, 818 Grand Avenue, Scarritt Building, Kansas City, Missouri 64106.

FOR FURTHER INFORMATION CONTACT:

Chief, Technical Services, Office of Surface Mining, Region IV, 818 Grand Avenue, Scarritt Building, Kansas City, Missouri 64106. Telephone: 816/374-5770 or FTS 758-5770.

WALTER N. HEINE,
Director, Office of Surface Mining, Reclamation and Enforcement.

[FR Doc. 79-4634 Filed 2-8-79; 8:45 am]

[7020-02-M]

INTERNATIONAL TRADE COMMISSION

[AA1921-159]

TANTALUM ELECTROLYTIC FIXED CAPACITORS FROM JAPAN

Decision Not To Reexamine Determination

Notice is hereby given that the Commission has determined not to reexamine its determination in investigation No. AA1921-159, *Tantalum Electrolytic Fixed Capacitors from Japan.*

Issued: February 6, 1979.

By order of the Commission:

KENNETH R. MASON,
Secretary.

[FR Doc. 79-4557 Filed 2-8-79; 8:45 am]

[4510-29-M]

DEPARTMENT OF LABOR

Pension and Welfare Benefit Programs

[Applications No. D-976]

ALASKA ELECTRICAL PENSION TRUST

Proposed Exemption Relating to a Transaction

AGENCY: Department of Labor.

ACTION: Notice of proposed exemption.

SUMMARY: This document contains a notice of pendency before the Department of Labor (the Department) of a proposed exemption from the prohibited transaction restrictions of the Employee Retirement Income Security Act of 1974 (the Act), and from certain taxes imposed by the Internal Revenue Code of 1954 (the Code). The proposed exemption would exempt the leasing of certain property and an extension of credit between the Alaska Electrical Pension Trust (the Trust) and Dewhirst, Egan, Porter and Company (the Partnership), a partnership, previously known as Dewhirst, Egan, Root and Company which provides services to the Trust. The proposed exemption, if granted, would affect participants and beneficiaries of the Trust and the Partnership.

DATE: Written comments and requests for a public hearing must be received by the Department on or before April 5, 1979.

EFFECTIVE DATE: If the proposed exemption for the lease is granted, it will be effective October 15, 1976. If the proposed exemption for the extension of credit is granted it will be effective April 1, 1978.

ADDRESS: All written comments and all requests for a hearing (at least six copies) should be addressed to: Office of Fiduciary Standards, Pension and Welfare Benefit Programs, Room C-4526, U.S. Department of Labor, 200 Constitution Avenue, NW., Washington, D.C., 20216, Attention: Application No. D-967. The application for exemption and the comments received will be available for public inspection in the Public Documents Room of Pension and Welfare Benefit Programs, U.S. Department of Labor, Room N-4677, 200 Constitution Avenue, NW., Washington, D.C. 20216.

FOR FURTHER INFORMATION CONTACT:

Kathleen A. Bauer of the Office of Fiduciary Standards, Pension and Welfare Benefit Programs, U.S. Department of Labor, (202) 526915. (This is not a toll free number.)

SUPPLEMENTARY INFORMATION: Notice is hereby given of the pendency before the Department of an application for exemption from the restrictions of section 406(a)(1) (A), (B) and (D) of the Act, and from the taxes imposed by section 4975 (a) and (b) of the Code by reason of section 4975(c)(1) (A), (B), and (D) of the Code. The proposed exemption was requested in an application filed by the Trust pursuant to section 408(a) of the Act and section 4975(c)(2) of the Code, and in accordance with procedures set forth in ERISA procedure 75-1 (40 FR 18471, April 28, 1975). The application was filed with both the Department and the Internal Revenue Service. However, effective December 31, 1978, section 102 of Reorganization Plan No. 4 of 1978 (43 FR 47713, October 17, 1978) transferred the authority of the Secretary of the Treasury to issue exemptions of the type requested to the Secretary of Labor. Therefore, this notice of pendency is issued solely by the Department.

SUMMARY OF FACTS AND REPRESENTATIONS

The application contains facts and representations with regard to the proposed exemption which are summarized below. Interested persons are referred to the application and supporting documents on file with the Department for the complete representations of the applicants.

1. The Trust, created in 1968, currently has approximately 5,000 participants and beneficiaries and current assets exceeding $45,000,000. Current

monthly contributions exceed $1 million. The Trust's contributing employers are National Electrical Contractors Association (NECA) members and nonmembers who have executed letters of assent to the main bargaining "inside" and "outside" construction agreements between the Alaska Electrical Union and NECA. In addition, there are other major employers such as municipalities and Alyeska Pipeline who are contributing employers but have separate agreements with the Union.

2. The Trust has six trustees, three employer trustees and three union trustees. The employer trustees are George B. Gadverry, Rufus C. Henchee and Joseph S. Armstrong. The union trustees are Thomas E. Cashen, Merrill J. Hakala and Issac M. Waldrop. The Plan Administrator is William A. Egan, who is unrelated to James B. Egan, a partner in the Partnership.

3. The Trust owns a seven story commercial office building, popularly known as the Pension Fund Building (the Building), located at 2600 Denali Street, Anchorage, Alaska. The Building houses the offices of the Trust and the Alaska Electrical Health and Welfare and Legal Trusts (the Funds as well as commercial tenants.

4. Beginning approximately August 1, 1976, the Trust has employed the Partnership to provide various accounting services. On August 9, 1977, the Administrator of the Funds appointed the Partnership to be the accountants and auditors for the Trust and other trusts in accordance with the instructions of the Board of Trustees of each of the trusts.

5. By a lease dated October 15, 1976, the Partnership leased 3,000 square feet on the third floor of the Building under a three year lease (with option to renew for two terms of three years each) with tenancy to begin approximately December, 1976. The annual rental under the lease is $47,520, which is $3,960 per month or $1.32 a square foot per month. This rate is the same as that charged all other second and third floor tenants. In addition the applicant represents that it is also comparable to the usual business rental in similar buildings in Anchorage. Under the terms of the lease, the annual rent may be adjusted to pass through to the Partnership its proportional share of any increased costs to the Trust resulting from increases in real estate taxes or operating expenses, or the levying of any special assessment, on the Building. The rent is subject to further upward adjustment at the commencement of any renewal term in a percentage equal to the increase in the Anchorage Metropolitan Area Consumer Price Index over the Index base year figure for 1976.

6. The Partnership requested that special improvements be made to the leased space. These improvements were completed on approximately December 31, 1976. On November 16, 1977, the Trust and the Partnership agreed that the cost of these improvements was $21,339.23 and that the Partnership could amortize the cost over a 36 month period commencing December 1, 1977, at 10% interest. It was also agreed that the Partnership would pay back interest from December 31, 1976, to September 30, 1977. By check dated November 21, 1977, the Partnership paid the Trust $1,344.46 in satisfaction of the full amount of the back interest. The applicant states that the amortization of special leasehold improvements proceeded informally by the depositing of the sums due with the Trust, but that no written agreement was entered into until April 1, 1978, when a promissory note covering the amortization of the cost of the special leasehold improvements was executed by Thomas Dewhirst, James B. Egan and Marion Porter, the partners in the Partnership. The note provides that in the event the makers of the note do not exercise their option to renew the lease dated October 15, 1976, or are terminated by their default under the lease, the remaining principal to be paid and all interest accrued shall be immediately due and collectible.

7. The applicant represents that it has been a general business practice in the Anchorage area to permit a tenant to amortize the cost of special leasehold improvements over the term of a lease and that all tenants in the Building could amortize leasehold improvements at 10% interest. One other tenant has done so.

8. As of June 30, 1978, total assets of the Partnership were valued at $322,519.33 and total liabilities amounted to $127,461.55, leaving the Partners' equity at $195,057.78.

NOTICE TO INTERESTED PERSONS

All beneficiaries and participants of the Trust and members of the Alaska Chapter, NECA employer organization and associated employers contributing to the Trust will be notified of the proposed exemption. Notification to the members of the Alaska Chapter, NECA employer organization shall be by posting the notice of the proposed exemption as published in the FEDERAL REGISTER in each of the offices of NECA in Anchorage and Fairbanks until the end of the comment period and by mailing a copy of the proposed exemption as published in the FEDERAL REGISTER to non-employer members of the Alaska Chapter, NECA within 10 days of publication in the FEDERAL REGISTER. Notification to beneficiaries and participants shall be by posting the notice of the proposed exemption published in the FEDERAL REGISTER until the expiration of the comment period in each of the hiring halls and offices of the Union in Ketchikan, Juneau, Anchorage and Fairbanks, and at the main office of the Trust at 2600 Denali Street, Anchorage, Alaska. Such notification shall be posted within 10 days after the publication in the FEDERAL REGISTER.

GENERAL INFORMATION

The attention of interested persons is directed to the following:

(1) The fact that a transaction is the subject of an exemption under section 408(a) of the Act and section 4975(c)(2) of the code does not relieve a fiduciary or other party in interest or disqualified person with respect to the plan to which the exemption is applicable from certain other provisions of the Act and the Code, including any prohibited transaction provisions to which the exemption does not apply and the general fiduciary responsibility provisions of section 404 of the Act, which, among other things, require a fiduciary to discharge his duties respecting the plan solely in the interests of the plan's participants and beneficiaries and in a prudent fashion in accordance with section 404(a)(1)(B) of the Act; nor does it affect the requirement of section 401(a) of the Code that the plan must operate for the exclusive benefit of the employees of the employer maintaining the plan and their beneficiaries;

(2) The proposed exemption, if granted, will not extend to transactions prohibited under sections 406(a)(1)(C) and 406(b) of the Act and sections 4975(c)(1) (C), (E) and (F) of the Code;

(3) Before an exemption may be granted under section 408(a) of the Act and section 4975(c)(2) of the Code, the Department must find that the exemption is administratively feasible, in the interests of the plan and of its participants and beneficiaries, and protective of the rights of the participants and beneficiaries of the plan; and

(4) The proposed exemption, if granted, will be supplemental to, and not in derogation of, any other provisions of the Act and Code, including statutory or administrative exemptions and transitional rules. Furthermore, the fact that a transaction is subject to an administrative or statutory exemption is not dispositive of whether the transaction is in fact a prohibited transaction.

WRITTEN COMMENTS AND HEARING REQUEST

All interested persons are invited to submit written comments or requests for a hearing on the pending exemption to the address and within the time period set forth above. All comments will be made a part of the record. Comments and requests for a hearing should state the reasons for the writer's interest in the proposed exemption. Comments received will be available for public inspection with the application for exemption at the address set forth above.

PROPOSED EXEMPTION

Based upon the representations set forth in the application, the Department is considering granting the requested exemption under the authority of section 408(a) of the Act and section 4975(c)(2) of the Code and in accordance with the procedures set forth in ERISA Procedure 75-1. If the exemption is granted, the restrictions of section 406(a)(1) (A), (B) and (D) of the Act and the taxes imposed by section 4975 (a) and (b) of the Code by reason of section 4975(c)(1) (A), (B) and (D) of the Code shall not apply to (1) the lease of 3,000 square feet of office space on the third floor of the Building for the term of the lease signed on October 15, 1976, and renewals thereunder, provided that the rent paid is not less than fair market rent for that office space and (2) the amortization of the cost of the special leasehold improvements by the Partnership, provided that the interest rate paid is not less than the fair market interest rate for such an extension of credit. If the exemptions are granted, the effective dates will be October 15, 1976, for the exemption covering the lease and April 1, 1978, for the exemption covering the extension of credit.

The proposed exemption, if granted, will be subject to the express conditions that the material facts and representations contained in the application are true and complete, and that the application accurately describes all material terms of the transaction to be consummated pursuant to the exemption.

Signed at Washington, D.C. this 31st day of January 1979.

IAN D. LANOFF,
Administrator for Pension and Welfare Benefit Programs, Labor-Management Services Administration, U.S. Department of Labor.

[FR Doc. 79-4093 Filed 2-2-79; 8:45 am]

[4510-29-M]

Pension Trust (Application No. D-192)

BRIGGS-WEAVER, INC.

Proposed Exemption for Certain Transactions

AGENCY: Department of Labor.

ACTION: Notice of proposed exemption.

SUMMARY: This document contains a notice of pendency before the Department of Labor (the Department) of a proposed exemption from the prohibited transaction restrictions of the Employee Retirement Income Security Act of 1974 (the Act) and from certain taxes imposed by the Internal Revenue Code of 1954 (the Code). The proposed exemption would exempt the leasing by the Briggs-Weaver, Inc. Pension Trust (the Plan) of certain real property to Briggs-Weaver, Inc. (the Employer). The proposed exemption, if granted, would affect participants and beneficiaries of the Plan, the Employer, and other persons participating in the transaction.

DATES: Written comments and requests for a public hearing must be received by the Department of Labor on or before April 5, 1979.

EFFECTIVE DATE: If the proposed exemption is granted, the exemption will be effective from January 1, 1975 through June 30, 1984.

ADDRESS: All written comments and requests for a hearing (at least six copies) should be sent to: Office of Fiduciary Standards, Pension and Welfare Benefit Programs, Room C-4526, U.S. Department of Labor, 200 Constitution Avenue, N.W., Washington, D.C. 20216, Attention: D-192. The application for exemption and the comments received will be available for public inspection in the Public Documents Room of Pension and Welfare Benefit Programs, U.S. Department of Labor, Room N-4677, 200 Constitution avenue, N.W., Washington, D.C.

FOR FURTHER INFORMATION CONTACT:

William J. Flanagan of the Plan Benefits Security Division, Office of the Solicitor, U.S. Department of Labor, (202) 523-7931. (This is not a toll-free number.)

SUPPLEMENTARY INFORMATION: Notice is hereby given of the pendency before the Department of a proposed exemption from the restrictions of sections 406(a)(1) (A), (C), (D) and (E), 406(a)(2), 406(b) (1) and (2), and 407(a)(1)(B) of the Act and from the taxes imposed by section 4975 (a) and (b) of the Code, by reason of section 4975(c)(1) (A), (C), (D) and (E) of the Code. The proposed exemption was requested in an application filed by the Employer, pursuant to section 408(a) of the Act and section 4975(c)(2) of the Code, and in accordance with the procedures set forth in ERISA Procedure 75-1 (40 FR 18471, April 28, 1975). This application was filed with both the Department and the Internal revenue Service. However, effective December 31, 1978, section 102 of Reorganization Plan No. 4 of 1978 (43 FR 47713, October 17, 1978) transferred the authority of the Secretary of the Treasury to issue exemptions of the type requested to the Secretary of Labor. Therefore, this notice of pendency is issued solely by the Department.

SUMMARY OF FACTS AND REPRESENTATIONS

The application contains facts and representations with regard to the proposed exemption which are summarized below. Interested persons are referred to the application on file with the Department for the complete representations of the applicant.

On May 26, 1970, the Employer purchased certain real property in Austin, Texas. This property consisted of a 1.37 acre lot with permanent improvements thereon in the form of a general purpose office and warehouse building. This purchase was financed by a mortgage loan of $85,000 at 9½ percent yearly interest from the Plan to the Employer.

On August 12, 1974, the Plan purchased the property from the Employer for $135,000, the price being set by an independent appraiser on the basis of both the cost and the income methods of appraisal. After subtracting the amounts necessary to retire the previous mortgage loan and to pay certain transfer costs, the Plan ultimately paid the Employer $56,254.52 for the property.

At the same time, the Plan leased the premises back to the Employer. The lease was for a period of ten years (through August 11, 1984), with options for the Employer to renew for two additional five-year periods. During the initial ten-year term, the Employer is obligated to pay $1,125 per month rent, an amount representing a ten percent per year return to the Plan. This rental amount is also equivalent to a price of $1.80 per square foot per year, an amount comporting with the appraiser's assessment that the property shoud lease for between $1.75 and $2.15 per square foot per year. The monthly rent to be charged during each renewal period under the agreement will equal one-twelfth of the then annual rental, which will be calculated by multiplying the then appraised value of the property by a percentage not less than two percent higher than the then current yield of certain high grade corporate bonds. In addition, during the initial term of the lease and any renewals thereof, the Employer is obligated to pay all insurance, taxes, and maintenance costs associated with the property. The Employer also has the right of first refusal if the Plan decides to sell the property.

At the time of the purchase, the value of the property represented 7.8 percent of the Plan's total asset value. The most recent estimate available indicates that the property's value accounts for 6.3 percent of the Plan's total asset value. The most recent available audit of the Employer's financial condition indicates that the Employer has approximately $20,000,000 in assets and $10,000,000 in net worth.

The Employer has filed an application seeking an exemption to continue leasing this property from the Plan. The Employer is a party in interest with respect to the Plan as defined in section 3(14)(C) of the Act, and a disqualified person with respect to the Plan as defined in section 4975(e)(2)(C) of the Code. Since the Employer is a party in interest and a disqualified person, the lease arrangement between the Plan and the Employer is a prohibited transaction pursuant to section 406(a)(1) (A), (C), (D) and (E) of the Act and section 4975(c)(1) (A), (C), and (D) of the Code. In addition, since any property leased to an employer is "employer real property" as defined in section 407(d)(2) of the Act, and since the subject property is not "qualifying employer real property" within the meaning of section 407(d)(4) of the Act,[1] the holding of employer real property by the Plan is a prohibited transaction pursuant to sections 406(a)(2) and 407(a)(1) of the Act. Also, to the extent that the Employer may be a fiduciary with respect to the Plan as defined in section 3(21)(A) of the Act and section 4975(e)(3) of the Code, the lease arrangement may be a prohibited transaction pursuant to section 406(b) (1) and (2) of the Act and section 4975(c)(1)(E) of the Code.

In its application, the Employer represents that the requested exemption should be granted for several reasons. First, the Employer contends that it would be administratively feasible to grant this exemption because the lease has been properly recorded and because the lessor is the Republic National Bank of Dallas, the Plan trustee, which, as an independent professional trustee, will administer the lease properly and protect the Plan's interests. In addition, the exemption as proposed is for a limited time, thereby facilitating the monitoring of this transaction for possible abuses.

Second, the Employer contends that granting this exemption would be in the best interests of the Plan and its participants and beneficiaries. In this regard, the application represents that the 10 percent rate of return provided by the present lease is ¾ to 1¼ percent higher than currently available rates of return on similar leases. If, therefore, the Plan is forced to terminate the lease, the application states that the Plan not only will incur the costs accompanying the search for a new lessee, but also will fail to receive as high a rate of return as it receives under the current lease. In addition, according to the independent appraisal, the subject property is a valuable one in terms of location and suitability for a number of uses. The applicant claims that the Plan would suffer a hardship if it were forced to dispose of this lease, which was entered into before the passage of ERISA and which is one of its highest-yielding and most valuable assets.

Finally, the applicant argues that granting the exemption would be protective of the rights and interests of the Plan and its participants and beneficiaries. The value of this property was determined by an independent appraisal, and accounts for only a small percentage of the Plan's total asset value. Also, the lease will be administered by an independent professional trustee. In addition, the proposed exemption is for a limited time, thereby assuring additional review by the Agencies in the event that renewal of the lease is sought.

Although the Employer has requested an exemption for the initial ten-year term of the lease as well as for the two possible five-year renewal periods, the exemption being proposed by the Department will, if granted, exempt the lease arrangement only until June 30, 1984, forty-two days before the end of the lease's initial ten-year term, and excluding any renewal periods. This time limit coincides with the period of transitional relief provided by Congress in sections 414(c)(2) and 2003(c)(2) of the Act for certain leases between a plan and a party in interest pursuant to a binding contraction effect on July 1, 1974.[2] Congress provided such transitional relief to prevent undue hardship where plans had entered into transactions which were legal under previous law but prohibited under the Act. H. Rep. 93-1280, 93d Cong., 2 Sess. 325 (1974). The Department is not at this time prepared to conclude that an exemption permitting the lease to continue and be renewed after that date would be consistent with the standards of section 408(a) of the Act and section 4975(c)(2) of the Code. If the applicant believes that it can show that such additional relief would be appropriate, it can of course apply again for such relief.

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[1] The subject property fails to meet the requirement of section 407(d)(4)(A) of the Act that a substantial number of parcels of employer real property be dispersed geographically. Since the subject property is the only employer real property held by the Plan, such dispersion is not possible.

[2] The lease which is the subject of this transaction does not qualify for the transitional relief of sections 414(c)(2) and 2003(c)(2) of the Act because, as noted above, it exists pursuant to a contract entered into on August 12, 1974.

NOTICE TO INTERESTED PARTIES

All Plan participants and beneficiaries will be notified by letter containing a copy of the notice of pendency of the proposed exemption as published in the FEDERAL REGISTER, and advising these persons of their rights to comment and/or to request a hearing within the period of time specified above. Such notification will be given no later than 10 days after the notice of pendency is published in the FEDERAL REGISTER.

GENERAL INFORMATION

The attention of interested persons if directed to the following:

(1) The fact that a transaction is the subject of an exemption under section 408(a) of the Act and section 4975(c)(2) of the Code does not relieve a fiduciary or other party in interest or disqualified person from certain other provisions of the Act and the Code, including the general fiduciary responsibility provisions of section 404 of the Act which require, among other things, that a fiduciary discharge his duties respecting the Plan solely in the interests of the participants and beneficiaries of the Plan and in a prudent fashion in accordance with section 404(a)(1)(B) of the Act; nor does it affect the requirement of section 401(a) of the Code that the Plan must operate for the exclusive benefit of the employees of the employer maintaining the Plan and their beneficiaries;

(2) The proposed exemption, if granted, will not extend to transactions prohibited under sections 406(a)(1)(B) and 407(b) (2) and (3) of the Act, and section 4975(c)(1) (B) and (F) of the Code;

(3) Before any exemption may be granted under section 408(a) of the Act and section 4975(c)(2) of the Code, the Department must find that the exemption is administratively feasible, in the interests of the Plan and of its participants and beneficiaries, and protective of the rights of participants and beneficiaries of the Plan;

(4) The proposed exemption, if granted, will be supplemental to, and not in derogation of, any other provisions of the Act and the Code, including statutory or administrative exemptions and transitional rules. Furthermore, the fact that a transaction is subject to an administrative or statutory exemption is not dispositive of whether the transaction is in fact a prohibited transaction; and

WRITTEN COMMENT AND HEARING REQUESTS

All interested persons are invited to submit written comments or requests for a hearing on the proposed exemption to the address and within the time period set forth above. All comments will be made a part of the record. Comments and requests for a hearing should state the reasons for the writer's interest in the proposed exemption. Comments received will be available for public inspection with the application for exemption at the address set forth above.

PROPOSED EXEMPTION

Based on the facts and representations set forth in the application, the Department is considering granting this exemption under the authority of section 408(a) of the Act and section 4975(c)(2) of the Code and in accordance with the procedures set forth in ERISA Procedure 75-1. If the exemption is granted, the restrictions of sections 406(a)(1) (A), (C), (D), and (E), 406(a)(2), 406(b) (1) and (2), 407(a)(1) of the Act, and section 4975(c)(1) (A), (C), (D), and (E) of the Code shall not apply to the leasing of the real property described above from the Plan to the Employer for the rental amount stated in the lease. If granted, the exemption will be effective from January 1, 1975 through June 30, 1984. The exemption, if granted, will be subject to the express conditions that the material facts and representations contained in the application are true and complete, and that the application accurately describes all material terms of the transaction which is the subject of this exemption.

Signed at Washington, D.C., this 1st day of February 1979.

IAN D. LANOFF,
Administrator for Pension and Welfare Benefit Programs, Labor-Management Services Administration, U.S. Department of Labor.

[FR Doc. 79-4088 Filed 2-2-79; 8:45 am]

[4510-29-M]

[Prohibited Transaction Exemption 79-4]

HAAG ENGINEERING CO. PROFIT-SHARING TRUST

Employee Benefit Plans; Exemption From the Prohibitions Respecting a Transaction

AGENCY: Department of Labor.

ACTION: Grant of individual exemption.

SUMMARY: This exemption enables the Haag Engineering Company Profit-Sharing Trust (the Plan) to sell

a parcel of land to Haag Engineering Company (the Employer).

FOR FURTHER INFORMATION CONTACT:

Kathleen A. Bauer, Office of Fiduciary Standards, Pension and Welfare Benefit Programs, Room C-4526, U.S. Department of Labor, 200 Constitution Avenue, NW., Washington, D.C. 20216, (202) 523-6915. (This is not a toll free number.)

SUPPLEMENTARY INFORMATION: On November 7, 1978, notice was published in the FEDERAL REGISTER (43 FR 51890) of the pendency before the Internal Revenue Service and the Department of Labor (the Agencies) of an exemption from the provisions of section 406(a)(1) (A) and (D) and 406(b)(1) and 406(b)(2) of the Employee Retirement Income Security Act of 1974 (the Act) and from the taxes imposed by section 4975 (a) and (b) of the Internal Revenue Code of 1954 (the Code) by reason of section 4975(c)(1) (A), (D), and (E) of the Code for a transaction described in the application submitted by the trustees of the Plan and the Employer. The notice set forth a summary of facts and representations contained in the application for exemption and referred interested persons to the application for a complete statement of the facts and representations. The application has been available for public inspection at the Agencies in Washington, D.C. The notice also invited interested persons to submit comments on the requested exemption to the Internal Revenue Service (the Service). In addition, the notice stated that any interested person might submit a written request that a hearing be held relating to this exemption. No public comments and no requests for a hearing were received by the Service.

The notice of pendency as issued by both the Department of Labor (the Department) and the Service. However, effective December 31, 1978, section 102 of Reorganization Plan No. 4 of 1978 (43 FR 47713, October 17, 1978) transferred the authority of the Secretary of the Treasury to issue exemptions of the type requested to the Secretary of Labor. Therefore, this exemption is granted solely by the Department.

GENERAL INFORMATION

The attention of interested persons is directed to the following:

(1) The fact that a transaction is the subject of an exemption granted under section 408(a) of the Act and section 4975(c)(2) of the Code does not relieve a fiduciary or other party in interest or disqualified person with respect to a plan to which the exemption is applicable from certain other provisions of the Act and the Code. These provisions include any prohibited transaction provisions to which the exemption does not apply and the general fiduciary responsibility provisions is section 404 of the Act, which among other things require a fiduciary to discharge his duties respecting the plan solely in the interest of the participants and beneficiaries of the plan and in a prudent fashion in accordance with section 404(a)(1)(B) of the Act; nor does the fact that the transaction is the subject of an exemption affect the requirement of section 401(a) of the Code that a plan must operate for the exclusive benefit of the employees of the employer maintaining the plan and their beneficiaries.

(2) This exemption does not extend to transactions prohibited under section 406(a)(1) (B) and (C) and 406(b)(3) of the Act and section 4975(c)(1) (B), (C) and (F) of the Code.

(3) This exemption is supplemental to and not in derogation of, any other provisions of the Act and the Code, including statutory or administrative exemptions and transitional rules. Furthermore, the fact that a transaction is subject to an administrative or statutory exemption or transitional rule is not dispositive of whether the transaction is, in fact, a prohibited transaction.

EXEMPTION

In accordance with section 408(a) of the act and section 4975(c)(2) of the Code and the procedures set forth in ERISA procedure 75-1 (40 FR 18471, April 28, 1975), and based upon the entire record, the Agencies make the following determinations:

(a) The exemption is administratively feasible;

(b) It is in the interests of the plan and of the participants and beneficiaries; and

(c) It is protective of the rights of the participants and beneficiaries of the plan.

Accordingly, the following exemption is hereby granted under the authority of section 408(a) of the Act and section 4975(c)(2) of the Code and in accordance with the procedures set forth in ERISA Procedure 75-1.

The restrictions of section 406(a)(1) (A) and (D) and section 406(b)(1) and 406(b)(2) of the Act and the taxes imposed by section 4975(a) and (b) of the Code by reason of section 4975(c) (A), (D) and (E) of the Code shall not apply to the transaction involving the sale of a parcel of real property, described according to the plot record in volume 50 at page 207 of the map records of Dallas County, Texas as lot No. 6, Block "B" of Addison Airport Industrial District, by the Plan to the Employer for $80,000 cash, provided this amount is not less than the fair market value of the property.

The availability of this exemption is subject to the express conditions that the material facts and representations contained in the application are true and complete and that the application accurately describes all material terms of the transaction to be consummated pursuant pursuant to the exemption.

Signed at Washington, D.C. this 31st day of January 1979.

IAN D. LANOFF,
Administrator, Pension and Welfare Benefit programs, Labor-Management Services Administration, U.S. Department of Labor.

[FR Doc. 79-4090 Filed 2-2-79; 8:45 am]

[4510-29-M]

[Prohibited Transaction Exemption 79-3]

MAJESTIC PAINT CENTERS, INC. EMPLOYEES' RETIREMENT TRUST AND THE YENKIN MAJESTIC EMPLOYEES' RETIREMENT PLAN

Exemption from the Prohibitions Respecting Transactions

AGENCY: Department of Labor.

ACTION: Grant of individual exemption.

SUMMARY: This exemption enables the Yenkin Majestic Employees' Retirement Plan and the Majestic Paint Centers, Inc. Employees' Retirement Trust (the Plans) to make a loan to the Yenkin Majestic Paint Corporation and the Majestic Paint Centers, Inc. (Yenkin/Majestic).

FOR FURTHER INFORMATION CONTACT:

Charles Scalera, Office of Fiduciary Standards, Division of Exemptions, Pension and Welfare Benefit Programs, U.S. Department of Labor, 200 Constitution Avenue, NW., Washington, D.C. 20210, (202) 523-8194. This is not a toll free number.

SUPPLEMENTARY INFORMATION: On December 1, 1978, notice was published in the FEDERAL REGISTER (43 FR 56306) of the pendency before the Department of Labor (the Department) and the Internal Revenue Service (the Service) of an exemption from the provisions of section 406(a), 406(b)(1) and 406(b)(2) of the Employee Retirement Income Security Act of 1974 (the Act) and from the taxes imposed by section 4975 (a) and (b) of the Internal Revenue Code of 1954 (the Code) by reason of section 4975(c)(1) (A) through (E) of the Code for a transaction described in the applications submitted by Yenkin/Majestic and the Plans. The notice set forth a summary of facts and representations contained in the applications for exemption and referred interested persons to the applications for a complete statement of the facts and representations. The applications have been available for public inspection at both agencies in Washington, D.C. The notice also invited interested persons to submit comments on the requested exemption to the Service. In addition, the notice stated that any interested person might submit a written request that a hearing be held relating to this exemption. No public comments and no requests for a hearing were received by the Service.

The notice of pendency was issued by both the Department and the Service. However, effective December 31, 1978, section 102 of Reorganization Plan No. 4 of 1978 (43 FR 47713, October 17, 1978) transferred the authority of the Secretary of Treasury to issue exemptions of the type requested to the Secretary of Labor. Therefore, this exemption is granted solely by the Department.

GENERAL INFORMATION

The attention of interested persons is directed to the following:

(1) The fact that a transaction is the subject of an exemption granted under section 408(a) of the Act and section 4975(c)(2) of the Code does not relieve a fiduciary or party in interest or disqualified person with respect to a plan to which the exemption is applicable from certain other provisions of the Code and the Act. These provisions include any prohibited transaction provisions to which the exemption does not apply and the general fiduciary responsibility provisions of section 404 of the Act, which, among other things, require a fiduciary to discharge his/her duties respecting the plan solely in the interest of the participants and beneficiaries of the plan and in a prudent fashion in accordance with subsection (a)(1)(B) of the Act, nor does the fact that the transaction is the subject of an exemption affect the requirement of section 401(a) of the Code that a plan must operate for the exclusive benefit of the employees of the employer maintaining the plan and their beneficiaries.

(2) This exemption does not extend to transactions prohibited under section 406(b)(3) of the Act and section 4975(c)(1)(F) of the Code.

(3) This exemption is supplemental to, and not in derogation of, any other provisions of the Act and the Code, including statutory or administrative exemptions and transitional rules. Furthermore, the fact that a transaction is subject to an administrative or statutory exemption or transitional rule is not dispositive of whatever the transaction is, in fact, a prohibited transaction.

EXEMPTION

In accordance with section 408(a) of the Act and section 4975(c)(2) of the Code and the procedures set forth in ERISA Procedure 75-1 (40 FR 18471, April 28, 1975), and based upon the entire record, the Department makes the following determinations:

(a) The exemption is adminstratively feasible;

(b) It is in the interests of the plan and of the participants and beneficiaries; and

(c) It is protective of the rights of the participants and beneficaries of the plan.

Accordingly, the following exemption is hereby granted under the authority of section 408(a) of the Act and section 4975(c)(2) of the Code and in accordance with the procedures set forth in ERISA Procedure 75-1.

The restrictions of section 406(a) and section 406(b)(1) and 406(b)(2) of the Act and the taxes imposed by section 4975 (a) and (b) of the Code by reason of section 4975(c)(1) (A) through (E) of the Code shall not apply to certain equipment loan transactions between Yenkin/Majestic and the Plans that were described in the notice of pendency of December 1, 1978, provided that each such loan is no less favorable to the plans than a loan which could be obtained in arm's-length transaction with an unrelated party.

The availability of this exemption is subject to the express conditions that the material facts and representations contained in the applications are true and complete and that the applications accurately describe all material terms of the transactions to be consummated pursuant to the exemption.

Signed at Washington, D.C. this 31st day of January 1979.

IAN D. LANOFF,
Adminstrator, Pension and Welfare Benefit Programs, Labor-Management Services Administration, U.S. Department of Labor.

[FR Doc. 79-4089 Filed 2-2-79; 8:45 am]

[4510-29-M]

[Prohibited Transaction Exemption 79-6]

SMITH, BARNEY REAL ESTATE FUND

Employee Benefit Plans; Exemption From the Prohibitions relating to Transactions

AGENCY: Department of Labor.

ACTION: Grant of individual exemption.

SUMMARY: This exemption enables the Smith, Barney Real Estate Fund (the Fund) to obtain loans from lenders who are fiduciaries or other service

providers with respect to the qualified plans participating in the Fund.

FOR FURTHER INFORMATION CONTACT:

Kathleen A. Bauer of the Office of Fiduciary Standards, Pension and Welfare Benefit Programs, Room C-4526, U.S. Department of Labor, 200 Constitution Avenue, N.W., Washington, D.C. 20216, (202) 523-6915. (This is not a toll-free number.)

SUPPLEMENTARY INFORMATION: On December 1, 1978 notice was published in the FEDERAL REGISTER (43 FR 56308) of the pendency before the Department of Labor (the Department) and the Internal Revenue Service (the Service) (collectively, the Agencies) of a proposal for an exemption from the restrictions of section 406(a)(1) of the Employee Retirement Income Security Act of 1974 (the Act) and from the taxes imposed by section 4975 (a) and (b) of the Internal Revenue Code of 1954 (the Code) by reason of section 4975(c)(1) (A) through (D) of the Code, for transactions described in an application filed by the trustees of the Fund. The notice set forth a summary of facts and representations contained in the application for exemption and referred interested persons to the application for a complete statement of the facts and representations. The application has been available for public inspection at the Agencies in Washington, D.C. The notice also invited interested persons to submit comments on the requested exemption to the Service. In addition the notice stated that any interested person might submit a written request that a public hearing be held relating to this exemption. No public comments and no request for a hearing were received by the Service.

The notice of pendency was issued by both the Department and the Service. However, effective December 31, 1978, section 102 of Reorganization Plan No. 4 of 1978 (43 FR 47713, October 17, 1978) transferred the authority of the Secretary of the Treasury to issue exemptions of the type requested to the Secretary of Labor. Therefore, this exemption is granted solely by the Department.

General Information

The attention of interested persons is directed to the following:

(1) The fact that a transaction is the subject of an exemption granted under section 408(a) of the Act and section 4975(c)(2) of the Code does not relieve a fiduciary or party in interest or disqualified person with respect to a plan to which the exemption is applicable from certain other provisions of the Act and the Code. These provisions include any prohibited transaction provisions to which the exemption does not apply and the general fiduciary responsibility provisions of section 404 of the Act, which, among other things, require a fiduciary to discharge his or her duties respecting the plan solely in the interest of the participants and beneficiaries of the plan and in a prudent fashion in accordance with section 404(a)(1)(B) of the Act, nor does the fact that the transaction is the subject of an exemption affect the requirement of section 401(a) of the Code that a plan must operate for the exclusive benefit of the employees of the employer maintaining the plan and their beneficiaries.

(2) This exemption does not extend to transactions prohibited under section 406 (a)(2) and (b) of the Act and section 4975(c)(1) (E) and (F) of the Code.

(3) This exemption is supplemental to, and not in derogation of, any other provisions of the Act and the Code, including statutory or administrative exemptions and transitional rules. Furthermore, the fact that a transaction is subject to an administrative or statutory exemption or transitional rule is not dispositive of whether the transaction is, in fact, a prohibited transaction.

Exemption

In accordance with section 408(a) of the Act and section 4975(c)(2) of the Code and the procedures set forth in ERISA Procedure 75-1 (40 FR 18471, April 28, 1975), and based upon the entire record, the Department makes the following determinations:

(a) The exemption is administratively feasible;

(b) It is in the interests of the plans and of their participants and beneficiaries; and

(c) It is protective of the rights of the participants and beneficiaries of the plans.

Therefore, the exemption proposed in the notice of December 1, 1978 (43 FR 56308), is hereby granted under the authority of section 408(a) of the Act and section 4975(c)(2) of the Code and in accordance with the procedures set forth in ERISA Procedure 75-1.

The availability of this exemption is subject to the express condition that the material facts and representations contained in the application are true and complete, and that the application accurately describes all material terms of the transactions to be consummated pursuant to this exemption.

Signed at Washington, D.C., this 31st day of January 1979.

IAN D. LANOFF,
Administrator for Pension and Welfare Benefit Programs, Labor-Management Services Administration, U.S. Department of Labor.

[FR Doc. 79-4092 Filed 2-2-79; 8:45 am]

[4510-29-M]

[Prohibited Transaction Exemption 79-5]

TREND MILLS, INC. ET AL. PROFIT SHARING PLAN

Employee Benefit Plans; Exemption from the Prohibitions Relating to Transactions

AGENCY: Department of Labor.

ACTION: Grant of individual exemption.

SUMMARY: This exemption enables Champion International Corporation (CIC) to purchase a certain parcel of land containing a factory/office building (the Plant) from the Trend Mills, Inc. et al Profit Sharing Trust (the Trust) and to lease the property to WWG Industries, Inc. (WWG).

FOR FURTHER INFORMATION CONTACT:

Kathleen A. Bauer of the Office of Fiduciary Standards, Pension and Welfare Benefit Programs, Room C-4526, U.S. Department of Labor, 200 Constitution Avenue, NW, Washington, DC 20216, 202-523-6915. (This is not a toll-free number.)

SUPPLEMENTARY INFORMATION: On November 17, 1978 notice was published in the FEDERAL REGISTER (43 FR 53874) of the pendency before the Department of Labor (the Department) and the Internal Revenue Service (the Service) (collectively, the Agencies) of a proposal to grant an exemption from the restrictions of sections 406(a)(1) (A) through (D), 406(a)(2), 406(b)(1) and 407(a) of the Employee Retirement Income Security Act of 1974 (the Act), and from the taxes imposed by section 4975 (a) and (b) of the Internal Revenue Code of 1954 (the Code) by reason of section 4975(c)(1) (A) through (E) of the Code, for transactions described in an application filed by CIC and by Citizens and Southern Bank, the trustee of the Trust. The notice set forth a summary of facts and representations contained in the application for exemption and referred interested persons to the application for a complete statement of the facts and representations. The application has been available for public inspection at the Agencies in Washington, DC. The notice also invited interested persons to submit comments on the requested exemption to the Service. In addition the notice stated that any interested person might submit a written request that a public hearing be held relating to this exemption. No public comments and no request for a hearing were received by the Service.

The notice of pendency was issued by both the Department and the Service. However, effective December 31, 1978, section 102 of Reorganization Plan No. 4 of 1978 (43 FR 47713, October 17, 1978) transferred the authority of the Secretary of the Treasury to issue exemptions of the type requested to the Secretary of Labor. Therefore, this exemption is granted solely by the Department.

GENERAL INFORMATION

The attention of interested persons is directed to the following:

(1) The fact that a transaction is the subject of an exemption granted under section 408(a) of the Act and section 4975(c)(2) of the Code does not relieve a fiduciary or other party in interest or disqualified person with respect to a plan to which the exemption is applicable from certain other provisions of the Act and the Code. These provisions include any prohibited transactions provisions to which the exemption does not apply and the general fiduciary responsibility provisions of section 404 of the Act, which, among other things, require a fiduciary to discharge his or her duties respecting the plan solely in the interest of the participants and beneficiaries of the plan and in a prudent fashion in accordance with section 404(a)(1)(B) of the Act, nor does the fact the transaction is the subject of an exemption affect the requirement of section 401(a) of the Code that a plan must operate for the exclusive benefit of the employees of the employer maintaining the plan and their beneficiaries.

(2) This exemption does not extend to transactions prohibited under section 406(b) (2) and (3) of the Act and section 4975(c)(1)(F) of the Code.

(3) This exemption is supplemental to, and not in derogation of, any other provisions of the Act and the Code, including statutory or administrative exemptions and transitional rules. Furthermore, the fact that a transaction is subject to an administrative or statutory exemption or transitional rule is not dispositive of whether the transaction is, in fact, a prohibited transaction.

EXEMPTION

In accordance with section 408(a) of the Act and section 4975(c)(2) of the Code and the procedures set forth in ERISA Procedure 75-1 (40 FR 18471, April 28, 1975), and based upon the entire record, the Department makes the following determinations:

(a) The exemption is administratively feasible;

(b) It is in the interest of the plan and of its participants and beneficiaries; and

(c) It is protective of the rights of the participants and beneficiaries of the plan.

The restrictions of sections 406(a)(1)(A) through (D), 406(a)(2), 406(b)(1) and 407(a) of the Act and the taxes imposed by section 4975 (a) and (b) of the Code by reason of section 4975(c)(1) (A) through (E) of the Code shall not apply to the purchase of the Plant by CIC from the Trust for $630,138 in cash, provided that this amount in not less than the fair market value of the Plant after making appropriate adjustments for costs in connection with the construction of an addition to the Plant and rent due the Trust, as described in the notice of November 17, 1978 (43 FR 53874), nor to the subleasing and transfer of the property to WWG.

The availability of this exemption is subject to the express conditions that the material facts and representations contained in the application are true and complete and that the application accurately describes all material terms of the transaction to be consummated pursuant to this exemption.

Signed at Washington, DC, this 31st day of January, 1979.

IAN D. LANOFF,
Administrator, Pension and Welfare Benefit Programs, Labor-Management Services Administration, U.S. Department of Labor.

[FR Doc. 79-4091 Filed 2-2-79; 8:45 am]

[4510-30-M]

DEPARTMENT OF LABOR

Employment and Training Administration

MIGRANT AND OTHER SEASONALLY EMPLOYED FARMWORKER PROGRAMS

AGENCY: Employment and Training Administration.

ACTION: Grant Awards for Programs under Title III, Section 303 of the Comprehensive Employment and Training Act.

SUMMARY: The Secretary of Labor announces the award of grants for Program Year 1979 funded under the provisions of the Comprehensive Employment and Training Act (CETA), Title III, Section 303.

EFFECTIVE DATE: January 15, 1979.

FOR FURTHER INFORMATION CONTACT:

Harry Kranz, Acting Director, Office of Farmworker Programs, U.S. Department of Labor, 601 D Street, N.W., Washington, D.C. 20213, (202) 376-6128.

GRANT AWARDS

The purpose of this notice is to announce grant awards for programs for migrant and other seasonally employed farmworkers for Program Year 1979 funded under Title III, Section 303, CETA. These programs are administered by the Employment and Training Administration and provide employment and training and other services for migrant and seasonal farmworkers.

The following is a list of grantees funded for Program Year 1979 and the total amount of each grant award. These programs are funded January 1, 1979, to September 30, 1979, at levels of not less than 75 percent of projected annual funding. Funding for some programs were negotiated above the 75 percent based on actual past expenditure patterns for the purpose of avoiding reductions in program activities. Those programs are so noted.

Alabama	
Alabama Migrant and Seasonal Farmworkers Council, Inc., Montgomery, Ala.	$649,800
Additional	21,660
Arizona	
Migrant Opportunity Programs, Phoenix, Ariz.	682,000
Arkansas	
Arkansas Council for Farmworkers, Inc., Little Rock, Ark.	844,900
California	
Campesinois Unidos, Brawley, Calif.	956,653
CET—San Jose, San Jose, Calif.	1,146,001
Additional	104,909
Services in County of Los Angeles	46,712
Central Coast Counties Development Corp., Aptos, Calif.	987,556
California Human Development Corp., Windsor, Calif.	1,856,323
Proteus Adult Training, Visalia, Calif.	3,322,965
City of Stockton, Stockton, Calif.	615,291
Connecticut	
New England Farmworkers' Council, Inc., Springfield, Mass.	322,400
Colorado	
Colorado Council on Migrant and Seasonal Agricultural Workers & Families, Wheatridge, Colo.	549,600
Delaware	
Migrant and Seasonal Farmworkers, Inc., Raleigh, N.C.	54,675
Florida	
Florida State Department of Education, Tallahassee, Fla.	3,011,000
Georgia	
Migrant and Seasonal Farmworkers, Inc., Raleigh, N.C..	988,575
Hawaii	
Office of the Governor, Honolulu, Hawaii.	218,700
Idaho	
Idaho Migrant Council, Boise, Idaho.	789,400
Illinois	
Illinois Migrant Council, Chicago, Ill.	1,407,200

Indiana	
Indiana Office of the Governor, Indianapolis, Ind.	811,650
Iowa	
Migrant Action Program, Inc., Des Moines, Iowa.	1,299,525
Kansas	
ORO Development Corportion, Inc., Oklahoma City, Okla.	848,000
Kentucky	
Tennessee Opportunity Program for Seasonal Farmworkers, Inc., Nashville, Tenn.	745,800
Louisiana	
Motivation, Education and Training, Inc., Jennings, La.	523,192
Southern Mutual Help Association, Jeanerette, La.	162,239
Evangeline Parish Community Action Agency, Evangeline County, La.	85,669
Maine	
Penobscot County Manpower Adminstration, Bangor, Maine.	414,600
Maryland	
Migrant and Seasonal Farmworkers, Inc., Raleigh, NC.	347,325
Additional	53,692
Massachusetts	
New England Farmworkers Council, Inc., Springfield, Mass.	266,900
Michigan	
United Migrants for Opportunity, Inc., Grand Ledge, Mich.	893,900
Additional	132,297
Minnesota	
Minnesota Migrant Council, St. Cloud, Minn.	1,188,375
Additional	193,309
Mississippi	
Mississippi Delta Council for Farmworkers Opportunities.	813,900
Missouri	
Rural Missouri, Inc., Jefferson City, Mo.	788,400
Additional	189,216
Montana	
State of Montana, Helena, Mont	494,500
Nebraska	
Migrant Action Program, Des Moines, Iowa.	752,700
Nevada	
CET—Nevada, San Jose, Calif	79,500
New Jersey	
Farmworkers Corporation of New Jersey, Vineland, NJ.	525,100
Additional	89,000
New Mexico	
Home Education Livelihood Program, Albuquerque, N. Mex.	442,867
New York	
Rural New York Opportunities, Rochester, NY.	1,025,550
North Carolina	
Migrant and Seasonal Farmworkers, Inc., Raleigh, N.C.	2,619,450
North Dakota	
North Dakota Migrant Council, Grand Forks, N. Dak..	377,900
Ohio	
La Raza Unida de Ohio, Columbus, Ohio.	881,600
Additional	74,055
Oklahoma	
ORO Development Corp., Inc., Oklahoma City, Okla.	500,700
Additional	46,732
Oregon	
California Human Development Corp., Windsor, Calif.	810,800
Pennsylvania	
Rural New York Opportunities, Rochester, NY.	1,225,900
Puerto Rico	
Commonwealth of Puerto Rico, Hato Rey, Puerto Rico.	1,293,075
Rhode Island	
New England Farmworkers Council, Inc., Springfield, Mass.	27,375
South Carolina	
South Carolina Office of the Governor, Columbia, SC.	763,425
South Dakota	
Minnesota Migrant Council, St. Cloud, Minn.	401,250
Tennessee	
Tennessee Opportunity Program for Seasonal Farmworkers, Inc., Nashville, Tenn.	544,725
Texas	
Motivation, Education and Training, Inc., Cleveland, Tex.	2,219,308
Economic Opportunity Development Corp., San Antonio, Tex.	233,153
Community Action Council of South Texas, Rio Grande City, Tex.	158,187
Additional	47,974
Colonias del Ville, San Juan, Tex	738,652
Utah	
Utah Migrant Council, Midvale, Utah.	248,600
Virginia	
Migrant & Seasonal Farmworkers, Inc., Raleigh, NC.	871,725
Vermont	
New England Farmworkers Councils, Springfield, Mass.	195,000
Washington	
Northwest Rural Opportunities, Grandview, Wash.	1,738,000
West Virginia	
Governor's Manpower Office, Charleston, W Va.	355,550
Wisconsin	
United Migrant Opportunity Services, Inc., Milwaukee, Wisc.	1,455,225
Wyoming	
Northwestern Community Action Program of Wyoming, Inc. Worland, Wyo.	205,800

Nonselected applicants have been notified by the Department of Labor of the Administrative Procedure for Petition for Reconsideration in accordance with CFR 29 § 97.292. Termination and closeout procedures applicable to 1978 grantees which have not received a grant for 1979 have also been sent to those grantees.

Signed at Washington, D.C., this 26th day of January 1979.

LAMOND GODWIN,
Administrator,
Office of National Programs.

[FR Doc. 79-4562 Filed 2-8-79; 8:45 am]

[4510-43-M]

Mine Safety and Health Administration

[Docket No. M-78-18]

B & Z COAL CO.

Final Action Granting a Petition for Modification of Application of Mandatory Safety Standard

The Mine Safety and Health Administration (MSHA) has granted the petition (42 FR 62215) of the B & Z Coal Co. to modify the application of 30 CFR 75.301 to its No. 1 Slope Mine located in Northumberland County, PA, in accordance with Section 101(c) of the Federal Mine Safety and Health Act of 1977, Pub. L. 95-164. MSHA has determined that an alternative method exists that will guarantee at all times no less than the same measure of protection given miners of the mine by the standard.

MSHA based its determination on the following findings:

1. MSHA investigators found the quantity of air in the working faces and in the last open crosscut to be in excess of the minimum requirements of 30 CFR 75.301.
2. Ventilation violation records reveal that the mine had been in compliance with air quantity requirements since its activation in January 1977, and that a hazardous condition due to methane, carbon dioxide, and other noxious or poisonous gases had not been detected since its opening.
3. Air sample analyses records and frequent onsite sampling confirm that harmful quantities of methane have not been detected in the mine.
4. The operator's records, as well as MSHA's, confirm that there were no ignitions, explosions, or mine fires in the mine since activation of the mine by the present operator.
5. Air sample analyses records and frequent onsite sampling indicate that harmful quantities of carbon dioxide and other noxious or poisonous gases are not present in the mine.
6. Respirable dust was not found to be in excess of the maximum standards as verified by dust smaple records, which revealed an average concentration of 0.20 mg/m3, and which was below the present maximum standard of 2.0 mg/m3. A high of 1.1 milligrams was recorded on an operator cycle of ten samples collected when the maximum limit was 20 milligrams.

7. When a study was conducted concerning dust concentration in anthracite mines, a representative mine regulated to simulate conditions with air quantities requested for this mine revealed there was no appreciable increase in dust concentrations.

8. The operator contends that extremely high air velocities in restricted airways and manways present a very dangerous flying object hazard to the miners. Investigation has revealed that these conditions do not exist in this mine; consequently, MSHA does not agree that this is a problem in the mine.

9. The operator argues that high velocities and large air quantities cause extremely uncomfortable damp and cold conditions in the already uncomfortable cold mine. MSHA's investigation tends to substantiate this claim even though the investigation was conducted during the warmer months. The mine is wet; consequently, a damp atmosphere is ever present. This dampness coupled with the cold air induced into the mine during the winter months creates an unbearable damp, cold working environment.

10. Interviews with the miners also substantiated the petitioner's claim that the mine conditions caused in part by compliance with 30 CFR 75.301 contribute to difficulty in attracting and retaining mine employees.

11. MSHA investigators also found there was no electric face equipment or other electrically operated mechanical mining equipment used in this mine, thus further minimizing any need for the quantities of air required by 30 CFR 75.301.

Because of these findings, the Administrator for Coal Mine Safety and Health, under authority delegated by the Secretary of Labor, ordered that the petition be granted, conditioned upon compliance with the following:

That the minimum quantity of air reaching each working face shall be 1,500 cubic feet a minute, the minimum quantity of air reaching the last open crosscut in any pair or set of developing entries and the last open crosscut in any pair or set of rooms shall be 5,000 cubic feet a minute, and/or whatever additional quantity of air that may be required in any of these areas to maintain a safe and healthful atmosphere.

A copy of the decision is available for inspection by the public at the Office of Standards, Regulations and Variances, Mine Safety and Health Administration, 4015 Wilson Boulevard, Arlington, Virginia 22203.

Dated: February 1, 1979.

Robert B. Lagather,
Assistant Secretary
for Mine Safety and Health.

[FR Doc. 79-4498 Filed 2-8-79; 8:45 am]

[4510-43-M]

[Docket No. M-78-135-C]

CONSOLIDATION COAL CO.

Petition for Modification of Application of Mandatory Safety Standard

Consolidation Coal Company, RD #5, Cadiz, Ohio 43907, has filed a petition to modify the application of 30 CFR 75.1100 (fire protection) to its Rose Valley #06 Mine in Harrison County, Ohio. The petition is filed under the Federal Mine Safety and Health Act of 1977, Pub. L. 95-164.

The substance of the petition follows:

1. This petition concerns the slope belt waterline at the petitioner's mine.

2. Due to freezing conditions during the winter which could render the waterline useless for firefighting, the petitioner proposes to establish the following dryline system:

a. Water for the system is gravity fed from a 12,000 gallon tank in the mine wash house through a two inch steel pipe.

b. Firehose outlets with 150 feet of firehose each are located along the slope belt waterline. At the first firehose outlet downslope, the static pressure is about 44 pounds per square inch. The remaining outlets have higher pressures due to their lower elevations.

c. In the event of a fire on or near the slope belt, an existing automatic fire sensor system will provide audible and visual signals in the hoisthouse to the full-time attendant hoistman who will then manually open a valve to charge the dry-line system with water.

3. The petitioner contends that this alternative will achieve no less protection for miners than that provided by the standard.

Request for Comments

Persons interested in this petition may furnish written comments on or before March 12, 1979. Comments must be filed with the Office of Standards, Regulations and Variances, Mine Safety and Health Administration, 4015 Wilson Boulevard, Arlington, Virginia 22203. Copies of the petition are available for inspection at that address.

Dated: February 1, 1979.

Robert B. Lagather,
Assistant Secretary
for Mine Safety and Health.

[FR Doc. 79-4499 Filed 2-8-79; 8:45 am]

[4510-43-M]

[Docket No. M-78-52-C]

H & S COAL CO.

Final Action Granting a Petition for Modification of Application of Mandatory Safety Standard

The Mine Safety and Health Administration (MSHA) has granted the petition of H & S Coal Co. to modify the application of 30 CFR 75.301 to its Morgan Drift Mine located in Schuylkill County, PA, in accordance with Section 101(c) of the Federal Mine Safety and Health Act of 1977, Pub. L. 95-164. MSHA has determined that an alternative method exists that will guarantee at all times no less than the same measure of protection given miners of the mine by the standard.

MSHA based its determination on the following findings:

1. MSHA field investigators confirmed the petitioner's claims with the exception that extremely high air velocities in restricted airways and manways were not found to exist at the time of the investigation.

2. MSHA investigators found the quantity of air in the working faces and in the last open crosscut to be below the minimum requirements of 30 CFR 75.301.

3. Ventilation violation records revealed that the mine was not always in compliance with respect to the air quantity requirements in the last open crosscut. However, a hazardous condition due to methane, carbon dioxide, and other noxious or poisonous gases was not detected in the mine during the period of noncompliance. There was one Notice of violation cited against Section 75.301 CFR Part 75, of the implementing regulations for insufficient air in the last open crosscut.

4. Air sample analyses records and frequent onsite sampling confirm that harmful quantities of methane have not been detected in the mine.

5. The operator's records, as well as MSHA's, confirm that there were no ignitions, explosions, or mine fires in the mine since activation of the mine by the present operator.

6. Air sample analyses records and frequent onsite sampling indicate that harmful quantities of carbon dioxide and other noxious or poisonous gases are not present in the mine.

7. Respirable dust was not found to be in excess of the maximum standards as certified by dust sample records, which revealed an average con-

centration of 0.16 mg/m3, and which was well below the present maximum standard of 2.0 mg/m3. A high of 0.50 milligrams was recorded on an operator cycle of ten samples collected when the maximum limit was 20 milligrams.

8. When a study was conducted concerning dust concentration in anthracite mines, a representative mine regulated to simulate conditions with air quantities requested for this mine revealed there was no appreciable increase in dust concentrations.

9. The operator argues that high velocities and large air quantities cause extemely uncomfortable damp and cold conditions in the already uncomfortable cold mine. MSHA's investigation tends to substantiate this claim even though the investigation was conducted during the warmer months. The mine is wet; consequently, a damp atmosphere is ever present. This dampness coupled with the cold air induced into the mine during the winter months creates an unbearable damp, cold working environment.

10. MSHA investigators also found there was no electric face equipment or other electrically operated mechanical mining equipment used in this mine, thus futher minimizing any need for the quantities of air required by 30 CFR 75.301.

Because of these findings, the Administrator for Coal Mine Safety and Health, under authority delegated by the Secretary of Labor, ordered that the petition be granted, conditioned upon compliance with the following:

That the minimum quantity of air reaching each working face shall be 1,500 cubic feet a minute, the minimum quantity of air reaching the last open crosscut in any pair or set of developing entries and the last open crosscut in any pair or set of rooms shall be 5,000 cubic feet a minute, and/or whatever additional quantity of air that may be required in any of these areas to maintain a safe and healthful atmosphere.

A copy of the decision is available for inspection by the public at the Office of Standards, Regulations and Variances, Mine Safety and Health Administration, 4015 Wilson Boulevard, Arlington, Virginia 22203.

Dated: February 1, 1979.

Robert B. Lagather,
Assistant Secretary for Mine Safety and Health.

[FR Doc. 79-4500 Filed 2-8-79; 8:45 AM]

[4510-43-M]

[Docket No. M-77-231]

K.R.K. COAL CO.

Final Action Granting a Petition for Modification of Application of Mandatory Safety Standard

The Mine Safety and Health Administration (MSHA) has granted the petition (42 FR 43680) of K.R.K. Coal Co. to modify the application of 30 CFR 75.301 to its K.R.K. Slope Mine located in Schuylkill County, PA, in accordance with Section 101(c) of the Federal Mine Safety and Health Act of 1977, Pub. L. 95-164. MSHA has determined that an alternative method exists that will guarantee at all times no less than the same measure of protection given miners of the mine by the standard.

MSHA based its determination on the following findings:

1. MSHA investigators found the quantity of air in the working faces and in the last open crosscut to be in excess of the minimum requirements of 30 CFR 75.301.

2. Ventilation records reveal that the mine had been in compliance with air quantity requirements since its activation in March 1976, and that a hazardous condition due to methane, carbon dioxide, and other noxious or poisonous gases had not been detected since its opening.

3. Air sample analyses records and frequent onsite sampling confirm that harmful quantities of methane have not been detected in the mine.

4. The operator's records, as well as MSHA's, confirm that there were no ignitions, explosions, or mine fires in the mine since activation of the mine by the present operator.

5. Air sample analyses records and frequent onsite sampling indicate that harmful quantities of carbon dioxide and other noxious or poisonous gases are not present in the mine.

6. Respirable dust samples collected by MSHA representatives revealed an average concentration of 0.40 mg/m3. Since the mine was operated intermittently, operator respirable dust data are not yet available for this mine. The operator is, however, in the process of establishing his original sampling cycle.

7. The operator contends that extremely high air volocities in restricted airways and manways present a very dangerous flying object hazard to the miners. Investigation has revealed that these conditions do not exist in this mine; consequently, MSHA does not agree that this is a problem in the mine.

8. The operator argues that high velocities and large air quantities cause extremely uncomfortable damp and cold conditions in the already uncomfortable cold mine. MSHA's investigation tends to substantiate this claim even though the investigation was conducted during the warmer months. The mine is wet; consequently, a damp atmosphere is ever present. This dampness coupled with the cold air induced into the mine during the winter months creates an unbearable damp, cold working environment.

9. Interviews with the miners also substantiated the petitioner's claim that the mine conditions caused in part by compliance with 30 CFR 75.301 contribute to difficulty in attracting and retaining mine employees.

10. MSHA investigators also found there was no electric face equipment or other electrically operated mechanical mining equipment used in this mine, thus further minimizing any need for the quantities of air required by 30 CFR 75.301.

Because of these findings, the Administrator for Coal Mine Safety and Health, under authority delegated by the Secretary of Labor, ordered that the petition be granted, conditioned upon compliance with the following:

That the minimum quantity of air reaching each working face shall be 1,500 cubic feet a minute, the minimum quantity of air reaching the last open crosscut in any pair or set of developing entries and the last open crosscut in any pair or set of rooms shall be 5,000 cubic feet a minute, and/or whatever additional quantity of air that may be required in any of these areas to maintain a safe and healthful atmosphere.

A copy of the decision is available for inspection by the public at the Office of Standards, Regulations and Variances, Mine Safety and Health Administration, 4015 Wilson Boulevard, Arlington, Virginia 22203.

Dated: February 1, 1979.

Robert B. Lagather,
Assistant Secretary for Mine Safety and Health.

[FR Doc. 79-4501 Filed 2-8-79; 8:45 am]

[4510-43-M]

[Docket No. M-78-64-C]

KWY COAL CO.

Final Action Granting a Petition for Modification of Application of Mandatory Safety Standard

The Mine Safety and Health Administration (MSHA) has granted the petition (43 FR 19929) of KWY Coal Co. to modify the application of 30 CFR 75.301 to its No. 9½ Vein Mine located in Northumberland County, PA, in accordance with Section 101(c) of the Federal Mine Safety and Health Act of 1977, Public Law 95-164. MSHA has determined that an alternative method exists that will guarantee at all times no less than the same measure of protection given miners of the mine by the standard.

MSHA based its determination on the following findings:

1. MSHA investigators found the quantity of air in the working faces and in the last open crosscut to be in excess of the minimum requirements of 30 CFR 75.301.

2. Ventilation violation records revealed that the mine had been in compliance with air quantity requirements since its activation in December 1975, and that a hazardous condition due to methane, carbon dioxide, and other noxious or poisonous gases had not been detected since its opening.

3. Air samples analyses records and frequent onsite sampling confirm that harmful quantities of methane have not been detected in the mine.

4. The operator's records, as well as MSHA's, confirm that there were no ignitions, explosions, or mine fires in the mine since activation of the mine by the present operator.

5. Air samples analysis records and frequent onsite sampling indicate that harmful quantities of carbon dioxide and other noxious or poisonous gases are not present in the mine.

6. Respirable dust was not found to be in excess of the maximum standards as verified by dust sample records. These records revealed an average concentration of 0.13 mg/m^3, well below the present maximum standard of 2.0 mg/m^3. A high of 0.7 milligram was recorded on an operator cycle of ten samples collected when the maximum limit was 20 milligrams.

7. When a study was conducted concerning dust concentration in anthracite mines, a representative mine regulated to simulate conditions with air quantities requested for this mine revealed there was no appreciable increase in dust concentrations.

8. The operator contends that extremely high air velocities in restricted airways and manways present a very dangerous flying object hazard to the miners. Investigation has revealed that these conditions do not exist in this mine; consequently, MSHA does not agree that this is a problem in the mine.

9. The operator argues that high velocities and large air quantities cause extremely uncomfortable damp and cold conditions in the already uncomfortable cold mine. MSHA's investigation tends to substantiate this claim even though the investigation was conducted during the warmer months. The mine is wet; consequently, a damp atmosphere is ever present. This dampness coupled with the cold air induced into the mine during the winter months creates an unbearable damp, cold working environment.

10. Interviews with the miners also substantiated the petitioner's claim that the mine conditions caused in part by compliance with 30 CFR 75.301 contribute to difficulty in attracting and retaining mine employees.

11. MSHA investigators also found there was no electric face equipment or other electrically operated mechanical mining equipment used in this mine, thus further minimizing any need for the quantities of air required by 30 CFR 75.301.

Because of these findings the Administrator for Coal Mine Safety and Health, under authority delegated by the Secretary of Labor, ordered that the petition be granted, conditioned upon compliance with the following:

That the minimum quantity of air reaching each face shall be 1,500 cubic feet a minute, the minimum quantity of air reaching the last open crosscut in any pair or set of developing entries and the last open crosscut in any pair or set of rooms shall be 5,000 cubic feet a minute, and/or whatever additional quantity of air that may be required in any of these areas to maintain a safe and healthful atmosphere.

A copy of the decision is available for inspection by the public at the Office of Standards, Regulations and Variances, Mine Safety and Health Administration, 4015 Wilson Boulevard, Arlington, Virginia 22203.

Dated: February 1, 1979.

ROBERT B. LAGATHER,
Assistant Secretary
for Mine Safety and Health.

[FR Doc. 79-4502 Filed 2-8-79; 8:45 am]

[4510-43-M]

[Docket No. M-78-65-C]

NORTH MT. COAL CO.

Final Action Granting a Petition for Modification of Application of Mandatory Safety Standard

The Mine Safety and Health Administration (MSHA) has granted the petition (43 FR 19929) of North Mt. Coal Company to modify the application of 30 CFR 75.301 to its North Mt. Slope Mine located in Shamokin, Pa. in accordance with Section 101(c) of the Federal Mine Safety and Health Act of 1977, Pub. L. 95-164. MSHA has determined that an alternative method exists that will guarantee at all times no less than the same measure of protection given miners of the mine by the standard.

MSHA based its determination on the following findings:

1. MSHA field investigators confirmed the petitioner's claims with the exception that extremely high air velocities in restricted airways and manways were not found to exist at the time of the investigation.

2. MSHA investigators found the quantity of air in the working faces and in the last open crosscut to be in excess of the minimum requirements of 30 CFR 75.301.

3. Ventilation records revealed no notices of violation cited against Section 75.301 since the opening of the mine. A hazardous condition due to methane, carbon dioxide, or other noxious or poisonous gases was not detected in the mine since mining commenced in 1977. There have been no ignitions, explosions or mine fires since activation of the mine by the present mine operator.

4. Respirable dust samples collected by MSHA representatives revealed an average concentration of 0.50 mg/m3, well below the current maximum standard of 2.0 mg/m3.

5. When a study was conducted concerning dust concentration in anthracite mines, a representative mine regulated to simulate conditions with air quantities requested for this mine revealed there was no appreciable increase in dust concentrations.

6. The petitioner's claim that high velocities and large quantities of air cause extremely uncomfortable damp and cold conditions in the mine, particularly during the winter months is borne out by numerous studies conducted in the past. It should be noted that these studies also indicate a possible increase in accident likelihood caused by physical reactions of the body to cold and damp weather during strenuous physical activity.

7. Interviews with the miners also substantiated the petitioner's claim that the mine conditions caused in part by compliance with 30 CFR 75.301 contribute to difficulty in attracting and retaining mine employees.

8. MSHA investigators also found there was not electric face equipment or other electrically operated mechanical mining equipment used in this mine, thus further minimizing any need for the quantities of air required by 30 CFR 75.301.

Because of these findings, the Administrator for Coal Mine Safety and Health, under authority delegated by the Secretary of Labor, ordered that the petition be granted, conditioned upon compliance with the following:

That the minimum quantity of air reaching each working face shall be 1,500 cubic feet a minute, the minimum quantity of air reaching the last open crosscut in any pair or set of developing entries and the last open crosscut in any pair or set of rooms shall be 5,000 cubic feet a minute, and/or whatever additional quantity of air that may be required in any of these areas to maintain a safe and healthful atmosphere.

A copy of the decision is available for inspection by the public at the Office of Standards, Regulations and Variances, Mine Safety and Health Administration, 4015 Wilson Boulevard, Arlington, Virginia 22203.

Dated: February 1, 1979.

ROBERT B. LAGATHER,
Assistant Secretary
for Mine Safety and Health.

[FR Doc. 79-4503 Filed 2-8-79; 8:45 am]

[4510-43-M]

[Docket No. M-77-219]

ORCHARD COAL CO.

Final Action Granting a Petition for Modification of Application of Mandatory Safety Standard

The Mine Safety and Health Administration (MSHA) has granted the petition (42 FR 43681) of Orchard Coal Company to modify the application of 30 CFR 75.301 to its Orchard Slope Mine located in Schuylkill County, PA, in accordance with Section 101(c) of the Federal Mine Safety and Health Act of 1977, Pub. L. 95-164. MSHA has determined that an alternative method exists that will guarantee at all times no less than the same measure of protection given miners of the mine by the standard.

MSHA based its determination on the following findings:

1. MSHA investigators found the quantity of air in the working faces and in the last open crosscut to be in excess of the minimum requirements of 30 CFR 75.301.

2. Ventilation violation records revealed that the mine was not always in compliance with respect to the air quantity requirement in the face area. However, a hazardous condition due to methane, carbon dioxide, and other noxious or poisonous gases was not detected in the mine during the period of noncompliance.

3. Air sample analyses records and frequent onsite sampling confirm that harmful quantities of methane have not been detected in the mine.

4. The operator's records, as well as MSHA's, confirm that there were no ignitions, explosions, or mine fires in the mine since activation of the mine by the present operator.

5. Air samples analyses records and frequent onsite sampling indicate that harmful quantities of carbon dioxide and other noxious or poisonous gases are not present in the mine.

6. Respirable dust was not found to be in excess of the maximum standards as verified by dust sample records, which revealed an average concentration of 0.20 mg/m3, well below the present maximum standard of 2.0 mg/m3. A high of 1.8 milligrams was recorded on an operator cycle of ten samples collected when the maximum limit was 20 milligrams.

7. When a study was conducted concerning dust concentration in anthracite mines, a representative mine regulated to simulate conditions with air quantities requested for this mine revealed there was no appreciable increase in dust concentrations.

8. The operator contends that extremely high air velocities in restricted airways and manways present a very dangerous flying object hazard to the miners. Investigation has revealed that these conditions do not exist in this mine; consequently, MSHA does not agree that this is a problem in the mine.

9. The operator argues that high velocities and large air quantities cause extremely uncomfortable damp and cold conditions in the already uncomfortable cold mine. MSHA's investigation tends to substantiate this claim even though the investigation was conducted during the warmer months. The mine is wet; consequently, a damp atmosphere is ever present. This dampness coupled with the cold air induced into the mine during the winter months creates an unbearable damp, cold working environment.

10. Interviews with the miners also substantiated the petitioner's claim that the mine conditions caused in part by compliance with 30 CFR 75.301 contribute to difficulty in attracting and retaining mine employees.

11. MSHA investigators also found there was no electric face equipment or other electrically operated mechanical mining equipment used in this mine, thus further minimizing any need for the quantities of air required by 30 CFR 75.301.

Because of these findings, the Administrator for Coal Mine Safety and Health, under authority delegated by the Secretary of Labor, ordered that the petition be granted, conditioned upon compliance with the following:

That the minimum quantity of air reaching each working face shall be 1,500 cubic feet a minute, the minimum quantity of air reaching the last open crosscut in any pair or set of developing entries and the last open crosscut in any pair or set of rooms shall be 5,000 cubic feet a minute, and/or whatever additional quantity of air that may be required in any of these areas to maintain a safe and healthful atmosphere.

A copy of the decision is available for inspection by the public at the Office of Standards, Regulations and Variances, Mine Safety and Health Administration, 4015 Wilson Boulevard, Arlington, Virginia 22203.

Dated: February 1, 1979.

ROBERT B. LAGATHER,
Assistant Secretary
for Mine Safety and Health.

[FR Doc. 79-4504 Filed 2-8-79; 8:45 am]

[4510-43-M]

[Docket No. M-78-43]

P.S. & R. COAL CO.

Final Action Granting a Petition for Modification of Application of Mandatory Safety Standard

The Mine Safety and Health Administration (MSHA) has granted the petition (43 FR 26147) of the P.S. & R. Coal Co. to modify the application of 30 CFR 75.301 to its No. 2 Slope Mine located in Schuylkill County, PA, in accordance with Section 101(c) of the Federal Mine Safety and Health Act of 1977, Pub. L. 95-164. MSHA has determined that an alternative method exists that will guarantee at all times no less than the same measure of protection given miners of the mine by the standard.

MSHA based its determination on the following findings:

1. MSHA investigators found the quantity of air in the working faces and in the last open crosscut to be in excess of the minimum requirements of 30 CFR 75.301.

2. Ventilation violation records revealed that the mine had been in compliance with air quantity requirements since its activation in June, 1977, and that a hazardous condition due to methane, carbon dioxide, and other noxious or poisonous gases had not been detected since its opening.

3. Air sample analyses records and frequent onsite sampling confirm that harmful quantities of methane have not been detected in the mine.

4. The operator's records, as well as MSHA's, confirm that there were no ignitions, explosions, or mine fires in the mine since activation of the mine by the present opertor.

5. Air sample analyses records and frequent onsite sampling indicate that harmful quantities of carbon dioxide and other noxious or poisonous gases are not present in the mine.

6. Respirable dust was not found to be in excess of the maximum standards as verified by dust sample records, which revealed an average concentration of 0.22 mg/m3, well below the present maximum standard of 2.0 mg/m3. A high of 0.4 milligrams was recorded on an operator cycle of ten samples collected when the maximum limit was 20 milligrams.

7. When a study was conducted concerning dust concentration in anthra-

cite mines, a representative mine regulated to simulate conditions with air quantities requested for this mine revealed there was no appreciable increase in dust concentrations.

8. The operator contends that extremely high air velocities in restricted airways and manways present a very dangerous flying object hazard to the miners. Investigation has revelaed that these conditions do not exist in this mine; consequently, MSHA does not agree that this is a problem in the mine.

9. The operator argues that high velocities and large air quantities cause extremely uncomfortable damp and cold conditions in the already uncomfortable cold mine. MSHA's investigation tends to substantiate this claim even though the investigation was conducted during the warmer months. The mine is wet; consequently, a damp atmosphere is ever present. This dampness coupled with the cold air inducted into the mine during the winter months creates an unbearable damp, cold working environment.

10. Interviews with the miners also substantiated the petitioner's claim that the mine conditions caused in part by compliance with 30 CFR 75.301 contribute to difficulty in attracting and retaining mine employees.

11. MSHA investigators also found there was no electric face equipment or other electrically operated mechanical mining equipment used in this mine, thus further minimizing any need for the quantities of air required by 30 CFR 75.301.

Because of these findings, the Administrator for Coal Mine Safety and Health, under authority delegated by the Secretary of Labor, ordered that the petition be granted, conditioned upon compliance with the following:

That the minimum quantity of air reaching each working face shall be 1,500 cubic feet a minute, the minimum quantity of air reaching the last open crosscut in any pair or set of developing entries and the last open crosscut in any pair or set of rooms shall be 5,000 cubic feet a minute, and/or whatever additional quantity of air that may be required in any of these areas to maintain a safe and healthful atmosphere.

A copy of the decision is available for inspection by the public at the Office of Standards, Regulations and Variances, Mine Safety and Health Administration, 4015 Wilson Boulevard, Arlington, Virginia 22203.

Dated: February 1, 1979.

Robert B. Lagather,
Assistant Secretary
for Mine Safety and Health.

[FR Doc. 79-4505 Filed 2-8-79; 8:45 am]

[4510-43-M]

[Docket No. M-79-7-C]

Y & O COAL CO.

Petition for Modification of Application of Mandatory Safety Standard

Y & O Coal Company, Route 1, Beallsville, Ohio 43716 has filed a petition to modify the application of 30 CFR 75.305 (weekly examinations) to its Allison Mine in Belmont County, Ohio. The petition is filed under section 101(c) of the Federal Mine Safety and Health Act of 1977, Pub. L. 95-164.

The substance of the petition follows:

1. High humidity in the past and unfavorable roof conditions have caused numerous roof falls and excessive deterioration of the roof in the North and South return air courses and the Main East intake air course of the petitioner's mine.

2. These adverse conditions made weekly examinations of the air courses in their entirety extremely hazardous.

3. These air courses are not designated escape routes.

4. As an alternative to weekly examinations the petitioner proposes to examine the air courses twice a week at Outley 2 North and Outley 3 North.

5. Examinations will consist of tests to assure that ventilation is in the proper direction, a test for air velocity and volume and tests to assure that the ventilating current contains less than one percent methane.

6. The petitioner states that this alternative will achieve no less protection for miners than that provided by the standard.

Request for Comments

Persons interested in this petition may furnish written comments on or before March 12, 1979. Comments must be filed with the Office of Standards, Regulations and Variances, Mine Safety and Health Administration, 4015 Wilson Boulevard, Arlington, Virginia 22203. Copies of the petition are available for inspection at that address.

Dated: February 1, 1979.

Robert B. Lagather,
Assistant Secretary
for Mine Safety and Health.

[FR Doc. 79-4506 Filed 2-8-79; 8:45 am]

[4510-28-M]

Office of the Secretary

[TA-W-4436]

ALDON, INC., NEW BRAUNFELS, TEXAS

Certification Regarding Eligibility To Apply for Worker Adjustment Assistance

In accordance with section 223 of the Trade Act of 1974 the Department of Labor herein presents the results of TA-W-4436: investigation regarding certification of eligibility to apply for worker adjustment assistance as prescribed in section 222 of the Act.

The investigation was initiated on November 29, 1978 in response to a worker petition received on November 8, 1978 which was filed by the Amalgamated Clothing and Textile Workers Union on behalf of workers and former workers producing men's full-fashioned knit sweater shirts and sweaters at Aldon's Incorporated, New Braunfels, Texas, a subsidiary of McGregor-Doniger, Incorporated. The investigation revealed that the name of the firm is Aldon, Incorporated.

The Notice of Investigation was published in the Federal Register on December 5, 1978 (43 FR 56953). No public hearing was requested and none was held.

The determination was based upon information obtained principally from officials of Aldon, Incorporated, McGregor-Doniger, Incorporated, the U.S. Department of Commerce, the U.S. International Trade Commission, industry analysts and Department files.

In order to make an affirmative determination and issue a certification of eligibility to apply for adjustment assistance each of the group eligibility requirements of section 222 of the Act must be met. It is concluded that all of the requirements have been met.

U.S. imports of men's and boys' sweaters, knit cardigans and pullovers increased absolutely from 1976 and 1977 and from the first three quarters of 1977 to the same period in 1978.

All sweaters and sweater shirts producted at Aldon, Incorporated are sold by its parent company, McGregor-Doniger, Incorporated, McGregor-Doniger, Incorporated purchased imported men's full-fashioned knit sweaters for re-sale in the United States, beginning in June 1978. The company imports occurred in a period during which employment and production of full-fashioned sweaters at Aldon, Incorporated declined. Aldon, Incorporated is in the process of closing permanently.

CONCLUSION

After careful review of the facts obtained in the investigation, I conclude that increases of imports of articles like or directly competitive with men's full-fashioned knit sweaters produced at Aldon, Incorporated, New Braunfels, Texas contributed importantly to the decline in sales or production and to the total or partial separation of workers of that firm. In accordance with the provisions of the Act, I make the following certification:

> All workers of Aldon, Incorporated, New Braunfels, Texas who became totally or partially separated from employment on or after July 31, 1978 are eligible to apply for adjustment assistance under Title II, Chapter 2 of the Trade Act of 1974.

Signed at Washington, D.C. this 5th day of February 1979.

C. MICHAEL AHO,
Director, Office of Foreign Economic Research.

[FR Doc. 79-4515 Filed 2-8-79; 8:45 am]

[4510-28-M]

[TA-W-4272; TA-W-4273]

APECO CORP., DES PLAINES, ILLINOIS, ELK GROVE VILLAGE, ILLINOIS

Notice of Negative Determinations Regarding Eligibility To Apply for Worker Adjustment Assistance

In accordance with Section 223 of the Trade Act of 1974 the Department of Labor herein presents the results of TA-W-4272 and 4273: investigations regarding certification of eligibility to apply for worker adjustment assistance as prescribed in section 222 of the Act.

The investigations were initiated on October 20, 1978 in response to a worker petition received on October 18, 1978 which was filed on behalf of workers and former workers of the corporate office of the Apeco Corporation, Des Plaines, Illinois, and on behalf of workers and former workers providing credit collection, marketing, receiving and distribution (shipment) and engineering at the Elk Grove Village, Illinois facility of the Apeco Corporation.

The notice of investigation was published in the FEDERAL REGISTER on October 31, 1978 (43 FR 50758). No public hearing was requested and none was held.

The determination was based upon information obtained principally from officials of the Apeco Corporation and Department files.

In order to make an affirmative determination and issue a certification of eligibility to apply for adjustment assistance each of the group eligibility requirements of Section 222 of the Act must be met. Without regard to whether any of the other criteria have been met, the following criterion has not been met:

> that increases of imports of articles like or directly competitive with articles produced by the firm or appropriate subdivision have contributed importantly to the separations, or threat thereof, and to the absolute decline in sales or production.

The work of the corporate headquarters in Des Plaines, Illinois and of the distribution center in Elk Grove Village, Illinois of the Apeco Corporation is no longer integrated into the production of an article. Since April 1978 Apeco has not produced photocopier machines. Since November 1977 Apeco has not produced paper, and since December 1, 1978 Apeco has not produced toner. Since April 1978 Apeco has reorganized the company as a distributor of photocopiers and related paper and toner products. Apeco buys these products from unaffiliated domestic and foreign sources for resale to its customers. The reorganization of the business has progressed to such an extent that the separation of workers from the corporate office and the distribution center can no longer be related to the production of photocopiers. Furthermore, separations from employment at these facilities are not related to the closing of the toner plant on December 1, 1978.

CONCLUSION

After careful review, I determine that all workers of the Des Plaines, Illinois and the Elk Grove Village, Illinois facilities of the Apeco Corporation, are denied eligibility to apply for adjustment assistance under Title II, Chapter 2 of the Trade Act of 1974.

Signed at Washington, D.C. this 5th day of February 1979.

C. MICHAEL AHO,
Director, Office of Foreign Economic Research.

[FR Doc. 79-4537 Filed 2-8-79; 8:45 am]

[4510-28-M]

[TA-W-4554]

APEX HANDBAG DIVISION, OLLA INDUSTRIES, INC., WEEHAWKEN, NEW JERSEY

Certification Regarding Eligibility To Apply for Worker Adjustment Assistance

In accordance with section 223 of the Trade Act of 1974 the Department of Labor herein presents the results of TA-W-4554: Investigation regarding certification of eligibility to apply for worker adjustment assistance as prescribed in Section 222 of the Act.

The investigation was initiated on December 28, 1978 in response to a worker petition received on December 26, 1978 which was filed by the International Leather Goods, Plastics, and Novelty Workers Union on behalf of workers and former workers producing ladies' handbags at the Apex Handbag Division of Olla Industries, Incorporated, Weehawken, New Jersey.

The Notice of Investigation was published in the FEDERAL REGISTER on January 5, 1979 (44 FR 1485). No public hearing was requested and none was held.

The determination was based upon information obtained principally from officials of Olla Industries, Incorporated, the U.S. Department of Commerce, the U.S. International Trade Commission, industry analysts and Department files.

In order to make an affirmative determination and issue a certification of eligibility to apply for adjustment assistance each of the group eligibility requirements of section 222 of the Act must be met. It is concluded that all of the requirements have been met.

U.S. imports of handbags increased both absolutely and relative to domestic production in 1977 from 1976 and increased absolutely in January-September 1978 compared to the same period in 1977.

Olla Industries, Incorporated, the parent firm of Apex Handbags, imports ladies' handbags. Imports of handbags by the parent firm increased both absolutely and relative to sales by Apex Handbags in 1978 compared to 1977.

CONCLUSION

After careful review of the facts obtained in the investigation, I conclude that increases of imports of articles like or directly competitive with the ladies' handbags produced at the Apex Handbags Division of Olla Industries, Incorporated, Weehawken, New Jersey contributed importantly to the decline in sales or production and to the total or partial separation of workers of that firm. In accordance with the provisions of the Act, I make the following certification:

> All workers of the Apex Handbag Division of Olla Industries, Incorporated, Weehawken, New Jersey who became totally or partially separated from employment on or after December 18, 1977 are eligible to apply for adjustment assistance under Title II, Chapter 2 of the Trade Act of 1974.

Signed at Washington, D.C. this 5th day of February 1979.

JAMES F. TAYLOR,
Director, Office of Management, Administration, and Planning.

[FR Doc. 79-5338 Filed 2-8-79; 8:45 am]

[4510-28-M]

[TA-W-4390]

BESTFORM FOUNDATIONS, INC. LONG ISLAND CITY, NEW YORK

Certification Regarding Eligibility To Apply for Worker Adjustment Assistance

In accordance with section 223 of the Trade Act of 1974 the Department of Labor herein presents the results of TA-W-4390: investigation regarding certification of eligibility to apply for worker adjustment assistance as prescribed in section 222 of the Act.

The investigation was initiated on November 16, 1978 in response to a worker petition received on November 13, 1978 which was filed on behalf of workers and former workers producing ladies' undergarments at Bestform Foundations, Incorporated, Long Island City, New York. The investigation revealed that the plant primarily produces bras and girdles.

The Notice of Investigation was published in the FEDERAL REGISTER on November 24, 1978 (43 FR 55011-12). No public hearing was requested and none was held.

The determination was based upon information obtained principally from officials of Bestform Foundations, Incorporated, the U.S. Department of Commerce, the U.S. International Trade Commission, industry analysts and Department files.

In order to make an affirmative determination and issue a certification of eligibility to apply for adjustment assistance each of the group eligibility requirements of Section 222 of the Act must be met. It is concluded that all of the requirements have been met.

U.S. imports of brassieres, bralettes, and bandeaux increased absolutely in 1977 compared to 1976. The ratio of imports to domestic production increased from 51.7 percent in 1976 to 59.3 percent in 1977. Imports increased absolutely in the first nine months of 1978 compared to the same period of 1977.

U.S. imports of corsets and girdles increased absolutely and relative to domestic production in 1977 compared to 1976. Imports increased absolutely in the first nine months of 1978 compared to the same period of 1977.

Bestform Foundations, Incorporated increased its imports of bras and girdles in 1977 compared to 1976 and in 1978 compared to 1977.

CONCLUSION

After careful review of the facts obtained in the investigation, I conclude that increases of imports of articles like or directly competitive with bras and girdles produced at Bestform Foundations, Incorporated, Long Island City, New York contributed importantly to the decline in sales or production and to the total or partial separation of workers of that plant. In accordance with the provisions of the Act, I make the following certification:

> All workers of Bestform Foundations, Incorporated, Long Island City, New York who became totally or partially separated from employment on or after October 27, 1977 are eligible to apply for adjustment assistance under Title II, Chapter 2 of the Trade Act of 1974.

Signed at Washington, D.C. this 5th day of February 1979.

C. MICHAEL AHO,
Director, Office of Foreign Economic Research.

[FR Doc. 79-4516 Filed 2-8-79; 8:45 am]

[4510-28-M]

[TA-W-4464]

BROWN FURNITURE MANUFACTURING CO., PINE BLUFF, ARKANSAS

Certification Regarding Eligibility To Apply for Worker Adjustment Assistance

In accordance with section 223 of the Trade Act of 1974 the Department of Labor herein presents the results of TA-W-4464: investigation regarding certification of eligibility to apply for worker adjustment assistance as prescribed in section 222 of the Act.

The investigation was initiated on December 6, 1978 in response to a worker petition received on November 28, 1978 which was filed by the United Furniture Workers of America on behalf of workers and former workers producing wood components for furniture, assembling, finishing, and packaging for shipment, at Brown Furniture Manufacturing Company, Pine Bluff, Arkansas. The investigation revealed that the plant primarily produced bedroom furniture.

The Notice of Investigation was published in the FEDERAL REGISTER on December 19, 1978 (43 FR 59165-66). No public hearing was requested and none was held.

The determination was based upon information obtained principally from officials of Brown Furniture Manufacturing Company, its customers, the National Association of Furniture Manufactures, the U.S. Department of Commerce, the U.S. International Trade Commission, industry analysts and Department files.

In order to make an affirmative determination and issue a certification of eligibility to apply for adjustment assistance each of the group eligibility requirements of Section 222 of the Act must be met. It is concluded that all of the requirements have been met.

U.S. imports of wood furniture (not upholstered) increased from $206.5 million in 1976 to $256.9 million in 1977, and increased from $184.5 million in the first nine months of 1977 to $249.6 million in the first nine months of 1978.

The Department conducted a survey of Brown Furniture Manufacturing Company's customers. The survey revealed some customers increased purchases of imported bedroom furniture and decreased purchases from Brown Furniture during the period 1976 to November 1978.

CONCLUSION

After careful review of the facts obtained in the investigation, I conclude that increases of imports of articles like or directly competitive with bedroom furniture produced at Brown Furniture Manufacturing Company, Pine Bluff, Arkansas contributed importantly to the decline in sales or production and to the total or partial separation of workers of that firm. In accordance with the provisions of the Act, I make the following certification:

> All workers of Brown Furniture Manufacturing Company, Pine Bluff, Arkansas who became totally or partially separeated from employment on or after November 20, 1977 are eligible to apply for adjustment assistance under Title II, Chapter 2 of the Trade Act of 1974.

Signed at Washington, D.C. this 1st day of February 1979.

JAMES F. TAYLOR,
Director, Office of Management, Administration, and Planning.

[FR Doc. 79-4517 Filed 2-8-79; 8:45 am]

[4510-28-M]

[TA-W-4419]

BROWN SHOE CO., PIGGOTT, ARKANSAS

Notice of Negative Determination Regarding Eligibility To Apply for Worker Adjustment Assistance

In accordance with section 223 of the Trade Act of 1974 the Department of Labor herein presents the results of TA-W-4419: investigation regarding certification of eligibility to apply for worker adjustment assistance as prescribed in section 222 of the Act.

The investigation was initiated on November 27, 1978 in response to a worker petition received on November 17, 1978 which was filed by the United Shoe Workers of America on behalf of workers and former workers producing men's shoes and boots at the Piggott, Arkansas plant of the Brown Shoe Company.

The Notice of Investigation was published in the FEDERAL REGISTER on December 5, 1978 (43 FR 56952). No public hearing was requested and none was held.

The determination was based upon information obtained principally from officials of Brown Shoe Company, the

U.S. Department of Commerce, the U.S. International Trade Commission, industry analysts and Department files.

In order to make an affirmative determination and issue a certification of eligibility to apply for adjustment assistance each of the group eligibility requirements of section 222 of the Act must be met. Without regard to whether any of the other criteria have been met, the following criterion has not been met:

> that a significant number or proportion of the workers in the workers' firm, or an appropriate subdivision thereof, have become totally or partially separated, or are threatened to become totally or partially separated.

The Department's investigation revealed that average employment of production workers at the Piggott, Arkansas plant of Brown Shoe Company increased in the last two quarters of 1977 compared to the same period in 1976 and increased in the first eleven months of 1978 compared to the same period in 1977. Average weekly hours worked per employee did not change significantly during this period. There is no immediate threat of separation of workers at this plant.

Conclusion

After careful review, I determine that all workers of the Piggott, Arkansas plant of the Brown Shoe Company are denied eligibility to apply for adjustment assistance under Title II, Chapter 2 of the Trade Act of 1974.

Signed at Washington, D.C. this 1st day of February 1979.

James F. Taylor,
Director, Office of Management, Administration, and Planning.

[FR Doc. 79-4518 Filed 2-8-79; 8:45 am]

[4510-28-M]

[TA-W-4308]

CAROL LEE FASHIONS, SANTO MONICA, CALIF.

Notice of Negative Determination Regarding Application for Reconsideration

On January 3, 1979, the Los Angeles Joint Board of the International Ladies' Garment Workers' Union, AFL-CIO, requested administrative reconsideration of the Department of Labor's Negative Determination Regarding Eligibility to Apply for Worker Adjustment Assistance in the case of former workers of Carol Lee Fashions' Plant at Santa Monica, California. The determination was published in the Federal Register on December 29, 1978, (43 FR 61042).

Pursuant to 29 CFR 90.18(c), reconsideration may be granted under the following curcumstances:

(1) if it appears on the basis of facts not previously considered that the determination complained of was erroneoues;

(2) if it appears that the determination complained of was based on a mistake in the determination of facts previously considered; or

(3) if, in the opinion of the Certifying Officer, a misinterpretation of facts or of the law justifies reconsideration of the decision.

The union clains that the statutory production and sales requirement for Carol Lee Fashions could be met if the Department adjusted Carol Lee's sales data to reflect three wage increases which took place in 1976 and 1977.

Areview of the case file indicates that Carol Lee is a woman's coat and jacket contractor whose workers were denied eligibility because the statutory sales or production requirement was not met.

Upon further investigation and according to company officials, production of women's coats and jackets increased, in quantity, in 1977 compared to 1976 and in 1978 compared to 1977. Since Carol Lee Fashions is a contractor in a basuc apparel contractor-manufacturer relationship, production is equal to sales. The statutory production or sales requirement, therefore, is not met.

In addition, average employment at Carol Lee was higher in the last quarter of 1977 than in the same quarter of 1976 and in the period January through October, 1978 compared to the same period in 1977.

Conclusion

After review of the application and the investigative file, I conclude that there has been no error or misinterpretation of fact or misinterpretation of the law which would justify reconsideration of the Department of Labor's prior decision. The application is, therefore, denied.

Signed at Washington, D.C., this 5th day of February 1979.

C. Michael Aho,
Director, Office of Foreign Economic Research.

[FR Doc. 79-4519 Filed 2-8-79; 8:45 am]

[4510-28-M]

[TA-W-4364]

CLOVER KNITTING MILLS, INC., PHILADELPHIA, PA.

Certification Regarding Eligibility To Apply for Worker Adjustment Assistance

In accordance with section 223 of the Trade Act of 1974 the Department of Labor herein presents the results of TA-W-4364: investigation regarding certifiction of eligibility to apply for worker adjustment assistance as prescribed in section 222 of the Act.

The investigation was initiated on November 13, 1978 in response to a worker petition received on November 6, 1978 which was filed by the Knitgoods Union, International Ladies' Garment Workers' Union on behalf of workers and former workers producing men's sweater shirts at Clover Knitting Mills, Incorporated, Philadelphia, Pennsylvania. The investigation revealed that the plant primarily produces men's sweaters.

The Notice of Investigation was published in the Federal Register on November 24, 1978 (43 FR 55012). No public hearing was requested and none was held.

The determination was based upon information obtained principally from officials of Clover Knitting Mills, Incorporated, its customers, the U.S. Department of Commerce, the U.S. International Trade Commission, industry analysts and Department files.

In order to make an affirmative determination and issue a certification of eligibility to apply for adjustment assistance each of the group eligibility requirements of Section 222 of the Act must be met. It is concluded that all of the requirements have been met.

U.S. imports of men's and boys' sweaters, knit cardigans and pullovers increased from 20.4 million units in 1975 to 26.5 million units in 1976 and to 28.3 million units in 1977. Imports increased to 33.2 million units in the first three quarters of 1978 as compared to 22.6 million units in the first three quarters of 1977.

U.S. imports of men's and boys' knit sport and dress shirts, excluding T-shirts, increased from 66.2 million units in 1975 to 74.0 million units in 1976 and to 75.2 million units in 1977. U.S. imports increased to 82.5 million units in the first three quarters of 1978 as compared to 54.6 million units in the first three quarters of 1977.

A Departmental survey of the customers of Clover Knitting Mills, Incorporated revealed that several customers increased their purchases of imported men's sweaters and knit shirts and decreased their purchases from Clover in 1977 compared to 1976 and in January-October, 1978 as compared to the same period in 1977.

Conclusion

After careful review of the facts obtained in the investigation, I conclude that increases of imports of articles like or directly competitive with men's sweaters and sweater shirts produced at Clover Knitting Mills, Incorporated, Philadelphia, Pennsylvania, contributed importantly to the decline in sales or production and to the total or partial separation of workers of that firm. In accordance with the provisions of the Act, I make the following certification:

> All workers of Clover Knitting Mills, Incorporated, Philadelphia, Pennsylvania, who became totally or partially separated from employment on or after August 5, 1978 are eligible to apply for adjustment assistance under Title II, Chapter 2 of the Trade Act of 1974.

Signed at Washington, D.C. this 1st day of February 1979.

James F. Taylor,
Director, Office of Management, Administration and Planning.

[FR Doc. 79-4520 Filed 2-8-79; 8:45 am]

[4510-28-M]

[TA-W-4376]

C. R. BARD, INC., BARD HOSPITAL DIVISION, MURRAY HILL, N.J.

Notice of Negative Determination Regarding Eligibility To Apply for Worker Adjustment Assistance

In accordance with section 223 of the Trade Act of 1974 the Department of Labor herein presents the results of TA-W-4376: investigation regarding certification of eligibility to apply for worker adjustment assistance as prescribed in section 222 of the Act.

The investigation was initiated on November 14, 1978 in response to a worker petition received on November 13, 1978 which was filed on behalf of workers and former workers producing medical products for hospital use at the Murray Hill, New Jersey plant of C. R. Bard, Incorporated. The investigation revealed that the Murray Hill plant is part of the Bard Hospital Division which primarily produces urological products.

The Notice of Investigation was published in the Federal Register on November 24, 1978 (43 FR 55013). No public hearing was requested and none was held.

The determination was based upon information obtained principally from officials of C. R. Bard, Incorporated, and Department files.

In order to make an affirmative determination and issue a certification of eligibility to apply for adjustment assistance each of the group eligibility requirements of section 222 of the Act must be met. Without regard to whether any of the other criteria have been met, the following criterion has not been met:

> That increases of imports of articles like or directly competitive with articles produced by the firm or appropriate subdivision have contributed importantly to the separations, or threat thereof, and to the absolute decline in sales or production.

Evidence developed in the course of the investigation revealed that layoffs at the Murray Hill, New Jersey plant of C. R. Bard, Incorporated occurred when the Bard Hospital Division transferred its hand assembly operations from the Murray Hill plant to the division's Covington, Georgia plant.

The Hospital Division's sales and production increased in 1978 compared to 1977. The layoffs at the Murray Hill plant were not caused by any drop in demand for the Hospital Division's products, but resulted from a change in plant utilization within the division's three plants. These three plants are located in Fitzwilliam, New Hampshire; Covington, Georgia; and Murray Hill, New Jersey and are operated in an integrated manner.

Prior to October 1978, all three plants produced product components which were then hand assembled, along with components bought from outside sources, at either the Murray Hill plant or the Covington plant.

In order to control manufacturing costs and better utilize production facilities, the company decided to centralize hand assembly operations in the Covington, Georgia plant and shift component production previously performed at Covington to Murray Hill. All workers in the Murray Hill assembly department were laid off when the department closed in October 1978 as assembly operations were transferred to Covington.

Conclusion

After careful review, I determine that all workers of the Murray Hill, New Jersey plant of the Bard Hospital Division of C. R. Bard, Incorporated are denied eligibility to apply for adjustment assistance under Title II, Chapter 2 of the Trade Act of 1974.

Signed at Washington, D.C. this 5th day of February 1979.

James F. Taylor,
Director, Office of Management, Administration and Planning.

[FR Doc. 79-4539 Filed 2-8-79; 8:45 am]

[4510-28-M]

[TA-W-4392]

CRESCENT KNITTING MILLS, INC., PHILADELPHIA, PA.

Certification Regarding Eligibility To Apply for Worker Adjustment Assistance

In accordance with section 223 of the Trade Act of 1974 the Department of Labor herein presents the results of TA-W-4392: investigation regarding certification of eligibility to apply for worker adjustment assistance as prescribed in section 222 of the Act.

The investigation was initiated on November 16, 1978 in response to a worker petition received on November 13, 1978 which was filed by the Knitgoods Union, International Ladies' Garment Workers' Union on behalf of workers and former workers producing men's sweaters at Crescent Knitting Mills, Incorporated, Philadelphia, Pennsylvania.

The Notice of Investigation was published in the Federal Register on November 24, 1978 (43 FR 55011-12). No public hearing was requested and none was held.

The determination was based upon information obtained principally from officials of Crescent Knitting Mills, Incorporated, its manufacturers, the U.S. Department of Commerce, the U.S. Internatinal Trade Commission, industry analysts and Department files.

In order to make an affirmative determination and issue a certification of eligibility to apply for adjustment assistance each of the group eligibility requirements of Section 222 of the Act must be met. It is concluded that all of the requirements have been met.

U.S. imports of men's and boys' sweaters, knit cardigans and pullovers increased from 20.4 million units in 1975 to 26.5 million units in 1976 and to 28.3 million units in 1977. Imports increased to 33.2 million units in the first three quarters of 1978 as compared to 22.6 million units in the first three quarters of 1977.

The Office of Trade Adjustment Assistance conducted a survey of the manufacturers who contracted work to Crescent Knitting Mills, Incorporated. The survey indicated that the manufacturers who decreased business with Crescent were also faced with declining company sales, as their retail customers increased purchases of imported men's sweaters and decreased purchases from these manufacturers during the first ten months of 1978 compared to the same period of 1977.

Conclusion

After careful review of the facts obtained in the investigation, I conclude that increases of imports of articles like or directly competitive with men's sweaters produced at Crescent Knitting Mills, Incorporated, Philadelphia, Pennsylvania contributed importantly to the decline in sales or production and to the total or partial separation of workers of that firm. In accordance with the provisions of the Act, I make the following certification:

> All workers of Crescent Knitting Mills, Incorporated, Philadelphia, Pennsylvania who became totally or partially separated from employment on or after September 29, 1978 are eligible to apply for adjustment assistance under Title II, Chapter 2 of the Trade Act of 1974.

Signed at Washington, D.C. this 1st day of February 1979.

James F. Taylor,
Director, Office of Management Administration and Planning.

[FR Doc. 79-4521 Filed 2-8-79; 8:45 am]

[4510-28-M]

[TA-W-4290]

DAN RIVER, INC., CLANTON, ALA.

Notice of Negative Determination Regarding Application for Reconsideration

By letter of January 11, 1979, the petitioners requested administrative reconsideration of the Department of Labor's Negative Determination Regarding Eligibility To Apply for Worker Adjustment Assistance in the case of former workers of Dan River, Inc., Clanton, Alabama. The determination was published in the Federal Register on January 12, 1979, (44 FR 2729).

Pursuant to 29 CFR 90.18(c), reconsideration may be granted under the following circumstances:

(1) if it appears on the basis of facts not previously considered that the determination complained of was erroneous;

(2) if it appears that the determination complained of was based on a mistake in the determination of facts previously considered; or

(3) if, in the opinion of the Certifying Officer, a misinterpretation of facts or of the law justifies reconsideration of the decision.

The petitioners claim that workers at the Clanton, Alabama, plant had poor machinery and working conditions and that it was not their fault that they could not compete with imports. They also claimed that much of the machinery at Clanton was scrapped when the plant closed.

The Clanton, Alabama, plant closed in October, 1977 and was one of several Dan River plants which produced corduroy.

The Department's review revealed that the Trade Act criterion that increased imports contributed importantly to worker separations was not met. Company-wide production of corduroy increased, in quantity, after the closing of the Clanton plant indicating a domestic transfer of company production. Dan River, Inc., does not import corduroy fabric. U.S. imports of finished fabric decreased absolutely in 1977 compared to 1976 while the import-to-production ratio was less than 2 percent, increasing from 1.8 percent in 1976 to only 1.9 percent in 1977.

CONCLUSION

After review of the application and the investigative file, I conclude that there has been no error or misinterpretation of fact or misinterpretation of the law which would justify reconsideration of the Department of Labor's prior decision. The application is, therefore, denied.

Signed at Washington, D.C., this 5th day of February 1979.

C. Michael Aho,
Director, Office of Foreign Economic Research.

[FR Doc. 79-4522 Filed 2-8-79; 8:45 am]

[4510-28-M]

[TA-W-4490]

FLORSHEIM SHOE CO., CHAFFEE, MO.

Notice of Negative Determination Regarding Eligibility To Apply for Worker Adjustment Assistance

In accordance with section 223 of the Trade Act of 1974 the Department of Labor herein presents the results of TA-W-4490: Investigation regarding certification of eligibility to apply for worker adjustment assistance as prescribed in section 222 of the Act.

The investigation was initiated on December 8, 1978 in response to a worker petition received on December 5, 1978 which was filed on behalf of workers and former workers producing men's shoes at the Chaffee, Missouri plant of the Florsheim Shoe Company.

The Notice of Investigation was published in the Federal Register on December 19, 1978 (43 FR 59179-80). No public hearing was requested and none was held.

The determination was based upon information obtained principally from officials of Florsheim Shoe Company, the U.S. Department of Commerce, the U.S. International Trade Commission, industry analysts and Department files.

In order to make an affirmative determination and issue a certification of eligibility to apply for adjustment assistance each of the group eligibility requirements of section 222 of the Act must be met. Without regard to whether any of the other criteria have been met, the following criterion has not been met:

> That a significant number or proportion of the workers in the workers' firm, or an appropriate subdivision thereof, have become totally or partially separated, or are threatened to become totally or partially separated.

The Department's investigation revealed that average employment of production workers at the Chaffee, Missouri plant of Florsheim Shoe Company increased in the fourth quarter of 1977 compared to the same quarter of 1976 and increased in the first eleven months of 1978 compared to the same period in 1977. Average weekly hours worked per employee did not change significantly during this period. There is no immediate threat of separation of workers at this plant.

CONCLUSION

After careful review, I determine that all workers of the Chaffee, Missouri plant of the Florsheim Shoe Company are denied eligibility to apply for adjustment assistance under Title II, Chapter 2 of the Trade Act of 1974.

Signed at Washington, D.C. this 5th day of February 1979.

C. Michael Aho,
Director, Office of Foreign Economic Research.

[FR Doc. 79-4540 Filed 2-8-79; 8:45 am]

[4510-28-M]

[TA-W-4516]

FRANZEN SHOE COMPANY, INC., WORCESTER, MASS.

Notice of Negative Determination Regarding Eligibility To Apply for Worker Adjustment Assistance

In accordance with section 223 of the Trade Act of 1974 the Department of Labor herein presents the results of TA-W-4516: investigation regarding certification of eligibility to apply for worker adjustment assistance as prescribed in section 222 of the Act.

The investigation was initiated on December 14, 1978 in response to a worker petition received on December 11, 1978 which was filed on behalf of workers formerly producing women's street shoes at Franzen Shoe Company, Incorporated, Worcester, Massachusetts. The investigation revealed that the plant primarily produced comfort shoes for older women.

The Notice of Investigation was published in the Federal Register on December 26, 1978 (43 FR 60243). No public hearing was requested and none was held.

The determination was based upon information obtained principally from officials of Franzen Shoe Company, Incorporated, its customers, the U.S. Department of Commerce, the U.S. International Trade Commission, industry analysts and Department files.

In order to make an affirmative determination and issue a certification of eligibility to apply for adjustment assistance each of the group eligibility requirements of section 222 of the Act must be met. Without regard to whether any of the other criteria have been met, the following criterion has not been met:

> That increases of imports of articles like or directly competitive with articles produced by the firm or appropriate subdivision have contributed importantly to the separations, or threat thereof, and to the absolute decline in sales or production.

A Department survey revealed that Franzen Shoe Company's leading customer did not import comfort shoes for older women during the 1976-1978 period. This customer indicated that Franzen Shoe Company was the only known domestic producer of this specialized line of shoes. The customer also stated that it would not have reduced business with Franzen Shoe had the company remained open. Franzen Shoe Company's other major customer reported that it had decreased purchases of imported women's nonrubber footwear in 1977 compared to 1976 and in the first three quarters of 1978 compared to the first three quarters of 1977.

CONCLUSION

After careful review, I determine that all workers of Franzen Shoe Company, Incorporated, Worcester, Massachusetts, are denied eligibility to apply for adjustment assistance under Title II, Chapter 2 of the Trade Act of 1974.

Signed at Washington, D.C. this 5th day of February 1979.

JAMES F. TAYLOR,
Director, Office of Management, Administration and Planning.

[FR Doc. 79-4541 Filed 2-8-79; 8:45 am]

[4510-28-M]

[TA-W-4610]

GOULD NO. 1 SURFACE MINE, GOULD MINES, INC., GREENBRIER COUNTY, W. VA.

[TA-W-4611]

SURFACE MINE NO. 6, GOULD MINES, INC., GREENBRIER COUNTY, W. VA.

[TA-W-4612]

GRAM NO. 1 SURFACE MINE, GOULD MINES, INC., GREENBRIER COUNTY, W. VA.

[TA-W-4613]

VIKING NO. 5 SURFACE MINE, GOULD MINES, INC., GREENBRIER COUNTY, W. VA.

Notice of Termination of Investigation

Pursuant to section 221 of the Trade Act of 1974, an investigation was initiated on January 8, 1979 in response to a worker petition received on January 2, 1979 which was filed by the United Mine Workers of America, in part on behalf of workers and former workers producing metallurgical coal at Gould #1 surface mine, Greenbrier County, West Virginia; surface mine #6, Greenbrier County, West Virginia;Gram #1 surface mine, Greenbrier County, West Virginia;and Viking #5 surface mine, Greenbrier County, West Virginia of Gould Mines, Incorporated.

The Notice of Investigation was published in the FEDERAL REGISTER on January 19, 1979 (44 FR 4029-30). No public hearing was requested and none was held.

The attorney for the petitioners requested termination of the investigation of the petititon insofar as it related to the operations and employees of Gould Mines, Incorporated. On the basis of this request, continuing the investigation would serve no purpose. Consequently the investigation has been terminated.

Signed at Washington, D.C. this 31st day of January 1979.

MARVIN M. FOOKS,
Director, Office of Trade Adjustment Assistance.

[FR Doc. 79-4523 Filed 2-8-79; 8:45 am]

[4510-28-M]

[TA-W-2244]

GREAT EASTERN TEXTILE PRINTING CO. MAHWAH, NEW JERSEY

Revised Determination of Eligibility To Apply for Worker Adjustment Assistance

In accordance with section 222 of the Trade Act of 1974, the Department of Labor issued a Revised Determination of Eligibility to Apply for Adjustment Assistance on February 17, 1978, applicable to all workers at the Great Eastern Textile Printing Company, Mahwah, New Jersey. The notice of Revised Determination was published in the FEDERAL REGISTER on February 28, 1978 (43 FR 8200).

On the basis of additional information, the Office of Trade Adjustment Assistance, on its own motion, reviewed the revised determination. The review and further investigation revealed that several layoffs have occurred at the New York sales office of the Great Eastern Textile Printing Company, Mahwah, New Jersey. The Great Eastern Textile Printing Company has closed its sales offices in New York and is winding down its printed textile fabric operations.

The intent of the certification is to cover all workers of Great Eastern Textile Printing Company who were affected by the decline in production of printed textile fabric at the Mahwah, New Jersey, plant related to import competition. The revised determination, therefore, is revised to include all workers at the New York City sales office of the Great Eastern Textile Printing Company, Mahwah, New Jersey.

The revised determination applicable to TA-W-2244 is hereby issued as follows:

> All workers at the Great Eastern Textile Printing Company, Mahwah, New Jersey, and the New York sales office at 171 Madison Avenue, New York, New York, of the Great Eastern Textile Printing Company, Mahwah, New Jersey, who became totally or partially separated from employment on or after August 1, 1976, are eligible to apply for adjustment assistance under Title II, Chapter 2 of the Trade Act of 1974.

Signed at Washington, D.C., this 5th day of February 1979.

C. MICHAEL AHO,
Director, Office of Foreign Economic Research.

[FR Doc. 79-4524 Filed 2-8-79; 8:45 am]

[4510-28-M]

[TA-W-4445]

HAMILTON WEB CO., NORTH KINGSTOWN, R.I.

Notice of Negative Determination Regarding Eligibility To Apply for Worker Adjustment Assistance

In accordance with section 223 of the Trade Act of 1974 the Department of Labor herein presents the results of TA-W-4445: investigation regarding certification of eligibility to apply for worker adjustment assistance as prescribed in section 222 of the Act.

The investigation was initiated on November 29, 1978 in response to a worker petition received on November 27, 1978 which was filed by the United Textile Workers of America on behalf of workers and former workers producing narrow woven fabrics for garment trim of the Hamilton Web Company, North Kingstown, Rhode Island.

The Notice of Investigation was published in the FEDERAL REGISTER on December 5, 1978 (43 FR 56953). No public hearing was requested and none was held.

The determination was based upon information obtained principally from officials of the Hamilton Web Company, its customers, the U.S. Department of Commerce, the U.S. International Trade Commission, industry analysts and Department files.

In order to make an affirmative determination and issue a certification of eligibility to apply for adjustment assistance each of the group eligibility requirements of section 222 of the Act must be met. Without regard to whether any of the other criteria have been met, the following criterion has not been met:

> that increases of imports of articles like or directly competitive with articles produced by the firm or appropriate subdivision have

contributed importantly to the separations, or threat thereof, and to the absolute decline in sales or production.

Results of a survey conducted by the Department of Labor indicated that customers of the Hamilton Web Company did not reduce their purchases of narrow woven fabric from Hamilton Web in favor of foreign suppliers. Hamilton Web's customers reported no purchases of imported narrow woven fabric in 1976, 1977, or 1978, or else declining purchases of imports of that product in the first 11 months of 1978 compared with the same period of 1977.

CONCLUSION

After careful review, I determine that all workers of the Hamilton Web Company, North Kingstown, Rhode Island are denied eligibility to apply for adjustment assistance under Title II, Chapter 2 of the Trade Act of 1974.

Signed at Washington, D.C. this 5th day of February 1979.

C. MICHAEL AHO,
Director, Office of Foreign Economic Research.

[FR Doc. 79-4542 Filed 2-8-79; 8:45 am]

[4510-28-M]

INVESTIGATIONS REGARDING CERTIFICATIONS OF ELIGIBILITY TO APPLY FOR WORKER ADJUSTMENT ASSISTANCE

Petitions have been filed with the Secretary of Labor under section 221(a) of the Trade Act of 1974 ("the Act") and are identified in the Appendix to this notice. Upon receipt of these petitions, the Director of the Office of Trade Adjustment Assistance, Bureau of International Labor Affairs, has instituted investigations pursuant to section 221(a) of the Act and 29 CFR 90.12.

The purpose of each of the investigations is to determine whether absolute or relative increases of imports of articles like or directly competitive with articles produced by the workers' firm or an appropriate subdivision thereof have contributed importantly to an absolute decline in sales or production, or both, of such firm or subdivision and to the actual or threatened total or partial separation of a significant number or proportion of the workers of such firm or subdivision.

Petitioners meeting these eligibility requirements will be certified as eligible to apply for adjustment assistance under Title II,Chapter 2, of the Act in Accordance with the provisions of Subpart B of 29 CFR Part 90. The investigations will further relate, as appropriate, to the determination of the date on which total or partial separations began or threatened to begin and the subdivision of the firm involved.

Pursuant to 29 CFR 90.13, the petitioners or any other persons showing a substantial interest in the subject matter of the investigations may request a public hearing, provided such request is filed in writing with the Director, Office of Trade Adjustment Assistance, at the address shown below, not later than February 23, 1979.

Interested persons are invited to submit written comments regarding the subject matter of the investigations to the Director, Office of Trade Adjustment Assistance, at the address shown below, not later than February 23, 1979.

The petitions filed in this case are available for inspection at the Office of the Director, Office of Trade Adjustment Assistance, Bureau of International Labor Affairs, U.S. Department of Labor, 200 Constitution Avenue, NW., Washington, D.C. 20210.

Signed at Washington, D.C. this 1st day of February 1979.

MARVIN M. FOOKS,
Director, Office of Trade Adjustment Assistance.

APPENDIX

Petitioner: (Union/workers or former workers of—	Location	Date received	Date of petition	Petition No.	Articles produced
C. A. Baltz (ILGWU)	Salem, New York	1/30/79	1/22/79	TA-W-4,767	Contractor of ladies' loungewear and sleepwear.
Barker Manufacturing Company (United Furniture Workers).	Portland, Oregon	1/30/79	1/25/79	TA-W-4,768	Bedroom furniture.
Barlin Industrial Corp. (ILGWU)	Brooklyn, New York	1/30/79	1/24/79	TA-W-4,769	Knitted dresses, sweaters, pants, jackets.
Baroness Leather Products, Inc. (workers).	Perth Amboy, New Jersey.	1/29/79	1/25/79	TA-W-4,770	Ladies' vinyl handbags.
Connors Steel Company (U.S.W.A.)	Huntington, West Virginia.	1/30/79	1/25/79	TA-W-4,771	Carbon steel and carbon steel products including structural shapes.
Conseco, Inc. (Int'l Brotherhood of Boilermakers & Blacksmith).	San Leandro, California	1/22/79	1/17/79	TA-W-4,772	Various kinds of fabricated metal products.
Davis Casket Co. (workers)	Americus, Georgia	1/24/79	1/17/79	TA-W-4,773	Interior department of caskets.
Graniteville Co., Gregg Division (workers).	Graniteville, S.C	1/30/79	1/23/79	TA-W-4,774	Finishing of gray fabrics.
Gulf & Western, Engery Products, Taylor Forge Woodstock Div. (International Brotherhood of Boilermakers & Blacksmith).	Memphis, Tenn	1/29/79	1/24/79	TA-W-4,775	Various types of forged fittings, T's and L's.
Herley Shoe Corp. (workers)	Haverhill, Mass	1/29/79		TA-W-4,776	Men's leather slippers.
Industrial Service Center (workers)	Baltimore, Maryland	1/30/79	1/29/79	TA-W-4,777	Warehousing of steel, cutting of steel to customers specifications and resell the steel.
Songo Shoe Manufacturing Corp. (workers).	Lewiston, Maine	1/30/79	1/24/79	TA-W-4,778	Cutting and sewing of men's and women's boots, golf shoes, cross country ski shoes and athletic shoes.
Tobin Hamilton Co., Inc. (United Shoe Workers of America).	Mansfield, Missouri	1/30/79	1/16/79	TA-W-4,779	Children's shoes.
U.S. Steel Corp., New Orleans District Sales Office (workers).	New Orleans, La	1/30/79	1/26/79	TA-W-4,780	Sales Office.

[FR Doc. 79-4536 Filed 2-8-79; 8:45 am]

[4510-28-M]

[TA-W-4409, 4409A, and 4409B]

JAY GARMENT CO., INC., CLARKSVILLE, TENNESSEE, PORTLAND, INDIANA

Notice of Negative Determinations Regarding Eligibility To Apply for Worker Adjustment Assistance

In accordance with section 223 of the Trade Act of 1974 the Department of Labor herein presents the results of TA-W-4409, TA-W-4409A and TA-W-4409B: investigation regarding certification of eligibility to apply for worker adjustment assistance as prescribed in section 222 of the Act.

The investigation was initiated on November 21, 1978 in response to a worker petition received on November 15, 1978 which was filed by the Amalgamated Clothing and Textile Workers' Union on behalf of workers and former workers producing men's work suits and men's work shirts at the Clarksville, Tennessee plant of the Jay Garment Company, Incorporated (TA-W-4409). The investigation was expanded to include workers and former workers producing work pants and jeans at the Portland, Indiana production plant (TA-W-4409A) and workers and former workers pressing and distributing all garments made by Jay Garment Company at the Portland, Indiana distribution center (TA-W-4409B) of Jay Garment Company, Incorporated.

The Notice of Investigation was published in the FEDERAL REGISTER on December 5, 1978 (43 FR 56951-52). No public hearing was requested and none was held.

The determination was based upon information obtained principally from officials of Jay Garment Company, Incorporated, its customers, the U.S. Department of Commerce, the U.S. International Trade Commission, industry analysts and Department files.

In order to make an affirmative determination and issue a certification of eligibility to apply for adjustment assistance each of the group eligibility requirements of section 222 of the Act must be met. Without regard to whether any of the other criteria have been met, the following criterion has not been met:

> that increases of imports of articles like or directly competitive with articles produced by the firm or appropriate subdivision have contributed importantly to the separations, or threat thereof, and to the absolute decline in sales or production.

A Department of Labor survey revealed that none of the customers of Jay Garment had purchased imported one piece work suits, work pants or work shirts from 1976 through October, 1978. Concerning denim jeans, Jay Garment's customers decreased purchases of imported denim jeans both absolutely and relative to purchases from the subject firm in 1977 compared to 1976 and during the January to October period in 1978 compared to the same period in 1977. These customers increased purchases from other domestic sources.

CONCLUSION

After careful review, I determine that all workers of the Clarksville, Tennessee and the Portland, Indiana production plants and the Portland, Indiana distribution center of Jay Garment Company, Incorporated are denied eligibility to apply for adjustment assistance under Title II, Chapter 2 of the Trade Act of 1974.

Signed at Washington, D.C. this 5th day of February 1979.

JAMES F. TAYLOR,
Director, Office of Management, Administration, and Planning.

[FR Doc. 79-4543 Filed 2-8-79; 8:45 am]

[4510-28—M]

[TA-W-4411]

M&S KNITWEAR CORP., NEWARK, NEW JERSEY

Notice of Negative Determination Regarding Eligibility To Apply for Worker Adjustment Assistance

In accordance with section 223 of the Trade Act of 1974 the Department of Labor herein presents the results of T-W-4411: investigation regarding certification of eligibility to apply for worker adjustment assistance as prescribed in section 222 of the Act.

The investigation was initiated on November 21, 1978 in response to a worker petition received on November 15, 1978 which was filed on behalf of workers and former workers sewing knitted jackets, dresses, blouses, pants, etc. at M&S Knitwear Corporation, Newark, New Jersey. The investigation revealed that workers at M&S also produced ladies' skirts, suits and vests.

The Notice of Investigation was published in the FEDERAL REGISTER on December 5, 1978 (43 FR 56951-2). No public hearing was requested and none was held.

The information upon which the determination was made was obtained principally from officials of M&S Knitwear Corporation, its customers, (manufacturers), the National Cotton Council of America, the U.S. Department of Commerce, the U.S. International Trade Commission, industry analysts, and Department files.

In order to make an affirmative determination and issue a certification of eligibility to apply for adjustment assistance each of the group eligibility requirements of section 222 of the Act must be met. Without regard to whether any of the other criteria have been met, the following criterion has not been met:

> that increases of imports of articles like or directly competitive with articles produced by the firm or subdivision have contributed importantly to the total or partial separation, or threat thereof, and to the absolute decline in sales or production.

The Department surveyed manufacturers for which M&S Knitwear worked in the last half of 1977 and in the first half of 1978. These manufacturers did not employ any foreign contractors nor did they import any of the women's apparel produced by M&S in 1977 or 1978. The manufacturers also had increased sales during the period under consideration.

CONCLUSION

After careful review, I determine that all workers of the Newark, New Jersey plant of M&S Knitwear Corporation are denied eligibility to apply for adjustment assistance under Title II, Chapter 2 of the Trade Act of 1974.

Signed at Washington, D. C. this 1st day of February 1979.

JAMES F. TAYLOR,
Director, Office of Management, Administration and Planning.

[FR Doc. 79-4525 Filed 2-8-79; 8:45 am]

[4510-28-M]

[TA-W-4372]

QUALIFIED COAT COMPANY, INC., BROOKLYN, NEW YORK

Notice of Negative Determination Regarding Eligibility To Apply for Worker Adjustment Assistance

In accordance with section 223 of the Trade Act of 1974 the Department of Labor herein presents the results of TA-W-4372: investigation regarding certification of eligibility to apply for worker adjustment assistance as prescribed in section 222 of the Act.

The investigation was initiated on November 13, 1978 in response to a worker petition received on November 3, 1978 which was filed on behalf of workers and former workers sewing ladies' coats, suits and rainwear at Qualified Coat Company, Incorporated. The investigation revealed that the plant primarily produces ladies' coats.

The Notice of Investigation was published in the FEDERAL REGISTER on November 24, 1978 (43 FR 55012-13). No public hearing was requested and none was held.

The determination was based upon information obtained principally from officials of the Qualified Coat Company, Incorporated, its customers, (manufacturers), customers of the manufacturers, the National Cotton Council of America, the U.S. Department of Commerce, the U.S. International Trade Commission, industry analysts and Department files.

In order to make an affirmative determination and issue a certification of eligibility to apply for adjustment assistance each of the group eligibility requirements of section 222 of the Act must be met. Without regard to whether any of the other criteria have been met, the following criterion has not been met:

> that increases of imports of articles like or directly competitive with articles produced by the firm or appropriate subdivision have contributed importantly to the separations, or threat thereof, and to the absolute decline in sales or production.

Qualified Coat Company, Incorporated was engaged in contract work for manufacturers during the period under investigation. A Department survey revealed that these manufacturers did not employ any foreign contractors nor did they import any ladies' coats during the past two years. One of the manufacturers had decreased sales for the January-September period of 1978 compared to the corresponding period of 1977. A survey of this manufacturer's customers was conducted. This survey revealed that customers which decreased purchases of ladies' coats and increased purchases of imports in the first three quarters of 1978 compared to that of 1977 accounted for an insignificant portion of the manufacturer's decline in sales.

CONCLUSION

After careful review, I determine that all workers of Qualified Coat Company, Incorporated, Brooklyn, New York are denied eligibility to apply for adjustment assistance under Title II, Chapter 2 of the Trade Act of 1974.

Signed at Washington, D.C. this 1st day of February 1979.

JAMES F. TAYLOR,
Director, Office of Management, Administration, and Planning.

[FR Doc. 79-4526 Filed 2-8-79; 8:45 am]

[4510-28-M]

[TA-W-4476]

M. SHAPIRO CO., LOS ANGELES, CALIFORNIA

Certification Regarding Eligibility To Apply for Worker Adjustment Assistance

In accordance with section 223 of the Trade Act of 1974 the Department of Labor herein presents the results of TA-W-4476: Investigation regarding certification of eligibility to apply for worker adjustment assistance as prescribed in section 222 of the Act.

The investigation was initiated on December 6, 1978 in response to a worker petition received on November 27, 1978 which was filed by the International Ladies' Garment Workers' Union on behalf of workers and former workers producing ladies' coats and jackets at M. Shapiro Company, Los Angeles, California.

The Notice of Investigation was published in the FEDERAL REGISTER on December 19, 1978 (43 FR 59165). No public hearing was requested and none was held.

The determination was based upon information obtained principally from officials of M. Shapiro Company, its customers, the U.S. Department of Commerce, the U.S. International Trade Commission, industry analysts, and Department files.

In order to make an affirmative determination and issue a certification of eligibility to apply for adjustment assistance each of the group eligibility requirements of section 222 of the Act must be met. It is concluded that all of the requirements have been met.

Imports of Women's, Misses', and Children's Coats and Jackets increased both absolutely and relative to domestic production in 1977 compared to 1976 and declined in the first three quarters of 1978 compared to the like period in 1977.

The Department conducted a survey of customers which decreased purchases from M. Shapiro Company in 1977 and 1978. Customers accounting for a significant percentage of the decline in Shapiro's sales in 1977 compared to 1976 and the first three quarters of 1978 compared to the first three quarters of 1977 increased purchases of imported ladies' coats and jackets during the same time periods.

CONCLUSION

After careful review of the facts obtained in the investigation, I conclude that increased imports of articles like or directly competitive with ladies' coats and jackets produced at M. Shapiro Company, Los Angeles, California contributed importantly to the decline in sales and to the separation of workers at that plant. In accordance with the provisions of the Act, I make the following certification:

> All workers of M. Shapiro Company, Los Angeles, California who became totally or partially separated from employment on or after December 1, 1977 are eligible to apply for adjustment assistance under Title II, Chapter 2 of the Trade Act of 1974.

Signed at Washington, D.C. this 5th day of February 1979.

C. MICHAEL AHO,
Director, Office of Foreign Economic Research.

[FR Doc. 79-4545 Filed 2-8-79; 8:45 am]

[4510-28-M]

[TA-W-4536]

SACO TANNING CORP., SACO, MAINE

Certification Regarding Eligibility To Apply for Worker Adjustment Assistance

In accordance with section 223 of the Trade Act of 1974 the Department of Labor herein presents the results of TA-W-4536: investigation regarding certification of eligibility to apply for worker adjustment assistance as prescribed in section 222 of the Act.

The investigation was initiated on December 15, 1978 in response to a worker petition received on December 11, 1978 which was filed on behalf of workers and former workers engaged in employment related to the tanning of hide leather for shoes and garments at the Saco Tanning Corporation, Saco, Maine. A previous certification applicable to all workers at Saco Tanning Corporation was issued by the Department on December 2, 1976 (TA-W-1087).

The Notice of Investigation was published in the FEDERAL REGISTER on December 29, 1978 (43 FR 61038-61039). No public hearing was requested and none was held.

The determination was based upon information obtained principally from officials of Saco Tanning Corporation, its customers, the U.S. Department of Commerce, the U.S. International Trade Commission, industry analysts and Department files.

In order to make an affirmative determination and issue a certification of eligibility to apply for adjustment assistance each of the group eligibility requirements of section 222 of the Act must be met. It is concluded that all of the requirements have been met.

U.S. imports of tanned and finished cattlehide increased both absolutely and relative to domestic production during the first nine months of 1978 compared to the first nine months of 1977.

A survey of purchasers of leather produced at Saco was conducted by the United States Department of Commerce. Surveyed customers increased purchases of imported leather while decreasing purchases from Saco.

CONCLUSION

After careful review of the facts obtained in the investigation, I conclude that increases of imports of articles like or directly competitive with tanned and finished leather from cattlehides produced at Saco Tanning Corporation, Saco, Maine contributed importantly to the decline in sales or production and to the total or partial separation of workers of that firm. In accordance with the provisions of the Act, I make the following certifcation:

> All workers of Saco Tanning Corporation, Saco, Maine who became totally or partially separated from employment on or after December 2, 1978 are eligible to apply for adjustment assistance under Title II, Chapter 2 of the Trade Act of 1974.

Signed at Washington, D.C. this 5th day of February 1979.

JAMES F. TAYLOR,
Director, Office of Management, Administration, and Planning.

[FR Doc. 79-4544 Filed 2-8-79; 8:45 am]

[4510-28-M]

[TA-W-4314]

SALANT & SALANT, INC., HENDERSON, TENNESSEE

Certification Regarding Eligibility To Apply for Worker Adjustment Assistance

In accordance with section 223 of the Trade Act of 1974 the Department of Labor herein presents the results of TA-W-4314: investigation regarding certification of eligibility to apply for worker adjustment assistance as prescribed in section 222 of the Act.

The investigation was initiated on October 30, 1978 in response to a worker petition received on October 26, 1978 which was filed by the Amalgamated Clothing and Textile Workers' Union on behalf of workers and former workers producing men's jeans at the Henderson, Tennessee plant of Salant & Salant, Incorporated.

The Notice of Investigation was published in the FEDERAL REGISTER on November 7, 1978 (43 FR 51866). No public hearing was requested and none was held.

The determination was based upon information obtained principally from officials of Salant & Salant, Incorporated, its customers, the U.S. Department of Commerce, the U.S. International Trade Commission, the National Cotton Council of America, industry analysts and Department files.

In order to make an affirmative determination and issue a certification of eligibility to apply for adjustment assistance each of the group eligibility requirements of Section 222 of the Act must be met. It is concluded that all of the requirements have been met.

U.S. imports of Men's and Boys' Woven Cotton and Man-Made Jeans and Dungarees increased absolutely in 1977 compared to 1976 and continued to increase absolutely in the first nine months of 1978 compared to the first nine months of 1977.

The Department conducted a survey of customers of Salant & Salant. These customers' purchases are not separately identifiable as to which plant in Salant & Salant produced their order. The survey revealed that several customers had decreased purchases of men's jeans from Salant & Salant in 1978 and increased purchases of imports.

CONCLUSION

After careful review of the facts obtained in the investigation, I conclude that increases of imports of articles like or directly competitive with men's jeans produced at the Henderson, Tennessee plant of Salant & Salant, Incorporated contributed importantly to the decline in sales or production and to the total or partial separation of workers of that firm. In accordance with the provisions of the Act, I make the following certification:

> All workers of Salant & Salant, Incorporated, Henderson, Tennessee engaged in employment related to the production of men's jeans who became totally or partially separated from employment on or after January 14, 1978 are eligible to apply for adjustment assistance under Title II, Chapter 2 of the Trade Act of 1974.

Signed at Washington, D.C. this 5th day of February 1979.

C. MICHAEL AHO,
Director, Office of Foreign Economic Research.

[FR Doc. 79-4527 Filed 2-8-79; 8:45 am]

[4510-28-M]

[TA-W-4400]

SOMERSET KNITTING MILLS, INC., PHILADELPHIA, PENNSYLVANIA

Revised Notice of Determination of Eligibility To Apply for Worker Adjustment Assistance

In accordance with section 223 of the Trade Act of 1974, the Department of Labor issued a Notice of Negative Determination Regarding Eligibility to Apply for Worker Adjustment Assistance on January 22, 1979, applicable to all workers at the Somerset Knitting Mills, Inc., Philadelphia, Pennsylvania. The Notice of Negative Determination was published in the FEDERAL REGISTER on January 30, 1979, (44 FR 5955).

On the basis of additional information supplied by the Knit Good Union, ILGWU, the Office of Trade Adjustment Assistance reviewed the Notice of Negative Determination. The new information revealed an absolute decrease in the production of sweaters at the Somerset Knitting Mills' plant in Philadelphia in the third and fourth quarters of 1978 compared to the same periods in 1977 and a decrease in employment at Somerset's Philadelphia plant during the third and fourth quarters of 1978 compared to the same periods in 1977. Company imports of sweaters increased in the first six months of 1978 compared to the same period in 1977.

U.S. imports of men's and boys' sweaters, knit cardigans and pullovers increased absolutely from 26,500,000 in 1976 to 28,300,000 in 1977 and increased absolutely from 22,600,000 in the first nine months of 1977 to 33,200,000 for the same period in 1978.

It is concluded, therefore, that a significant number or proportion of the workers of Somerset Knitting Mills, Inc., Philadelphia, Pennsylvania, were totally or partially separated at the Philadelphia, Pennsylvania, plant and increased imports of sweaters contributed importantly to their separations. The determination, therefore, is revised to include all workers at the Philadelphia, Pennsylvania, plant of the Somerset Knitting Mills, Inc.

The revised certification applicable to TA-W-4400 is hereby issued as follows:

> All workers at the Philadelphia, Pennsylvania, plant of Somerset Knitting Mills, Inc., who became totally or partially separated from employment on or after August 1, 1978, are eligible to apply for adjustment assistance under Title II, Chapter 2 of the Trade Act of 1974.

Signed at Washington, D.C., this 5th day of February 1979.

JAMES F. TAYLOR,
Director, Office of Management, Administration, and Planning.

[FR Doc. 79-4528 Filed 2-8-79; 8:45 am]

[4510-28-M]

[TA-W-4031]

STEINER-LOBMAN MANUFACTURING CO., MONTGOMERY, ALABAMA

Notice of Negative Determination Regarding Application for Reconsideration

By letter of January 10, 1979, counsel for the former workers requested administrative reconsideration of the Department of Labor's Negative Determation Regarding Eligibility to Apply for Worker Adjustment Assistance in the case of former workers of Steiner-Lobman Manufacturing Company, Montgomery, Alabama. The determination was published in the FEDERAL REGISTER on December 15, 1978, (43 FR 58652).

Pursuant to 29 CFR 90.18(c), reconsideration may be granted under the following circumstances:

(1) if it appears on the basis of facts not previously considered that the determination complained of was erroneous;

(2) if it appears that the determination complained of was based on a mistake in the determination of facts previously considered; or

(3) if, in the opinion of the Certifying Officer, a misinterpretation of facts or of the law justifies reconsideration of the decision.

Counsel for the former workers claims that the Department during its investigation (1) did not consider the adverse impact of increased imports on the general market, and (2) made a mistake of facts by not considering all the products produced by Steiner-Lobman, Montgomery, Alabama; namely, skirts, vests and dress pants. Counsel further claims that the Department misinterpreted the facts by (1) overlooking the possibility that increased imports could have taken away market opportunities from Steiner-Lobman, and (2) not addressing the cause for the closing of the plant in March, 1978.

Counsel's claim of the adverse impact of increased imports on the general market served by Steiner-Lobman had already been examined in the Department's investigation. U.S. imports of men's and women's blue jeans increased from 1975 through 1977 both absolutely and relative to domestic production. U.S. imports increased in absolute terms in the first six months of 1978 compared to the same period in 1977. A review of the case file indicates that although workers of Steiner-Lobman met most of the group eligibility requirements they did not meet the "contributed importantly" test. Evidence based on the Department's survey of Steiner-Lobman's customers (which were garment manufacturers) indicates that sales by all of the manufacturers increased in 1977 from 1976 and in the first eight months of 1978 compared to the same period in 1977. Only one customer contracted with foreign sources, but decreased its purchases from foreign sources in 1977 and 1978.

High company officials of Steiner-Lobman indicated that Steiner-Lobman is a contractor of men's and women's blue jeans and indicated that the production of skirts and vests represented a de minimus amount—being appreciably less than one percent of total annual plant production. Company officials further stated that the Montgomery plant never produced dress pants but only blue jeans and a few other pants of jean-type construction.

The Department does not consider counsel's claim of lost market opportunities because of increased imports as relevant to the possible coverage of workers at the Montgomery, Alabama, plant. The "contributed importantly" test is not met by potential gains and market opportunities which were never realized. The Trade Act certification test only includes actual import increases which contribute importantly to actual worker separations and production or sales declines.

With respect to counsel's claim that the Department's denial notice did not address the cause for the Montgomery, Alabama, plant's closing, the Department has satisfied itself that increased imports of articles like or directly competitive with blue jeans did not contribute importantly to the separations of workers at that plant.

CONCLUSION

After review of the application and the investigative file, I conclude that there has been no error or misinterpretation of fact or misinterpretation of the law which would justify reconsideration of the Department of Labor's prior decision. The application is, therefore, denied.

Signed at Washington, D.C., this 5th day of February 1979.

C. MICHAEL AHO,
Director, Office of Foreign Economic Research.

[FR Doc. 79-4529 Filed 2-8-79; 8:45 am]

[4510-28-M]

[TA-W-4354]

TELEDYNE, INC., TELEDYNE-WAH CHANG, ALBANY DIVISION, ALBANY, OREGON

Notice of Negative Determination Regarding Eligibility To Apply for Worker Adjustment Assistance

In accordance with section 223 of the Trade Act of 1974 the Department of Labor herein presents the results of TA-W-4354: investigation regarding certification of eligibility to apply for worker adjustment assistance as prescribed in section 222 of the Act.

The investigation was initiated on November 7, 1978 in response to a worker petition received on November 3, 1978 which was filed on behalf of workers and former workers engaged in the separation, reduction and fabrication of zirconium, hafnium, columbium, titanium and other rare metals at Teledyne-Wah Chang Albany Division of Teledyne, Incorporated, Albany, Oregon. The investigation revealed that the plant primarily produces zirconium.

The Notice of Investigation was published in the FEDERAL REGISTER on December 3, 1978 (43 FR 57692-57693). No public hearing was requested and none was held.

The determination was based upon information obtained principally from officials of the Teledyne-Wah Chang Albany Division of Teledyne, Incorporated, Albany, Oregon, its customers, the U.S. Department of Commerce, the U.S. International Trade Commission, industry analysts and Department files.

In order to make an affirmative determination and issue a certification of eligibility to apply for adjustment assistance each of the group eligibility requirements of section 222 of the Act must be met. Without regard to whether any of the other criteria have been met, the following criterion has not been met:

> that increases of imports of articles like or directly competitive with articles produced by the firm or appropriate subdivision have contributed importantly to the separations, or threat thereof, and to the absolute decline in sales or production.

Customers of Teledyne-Wah Chang Albany Division who were surveyed revealed that those that purchased imports and decreased purchase from the subject firm in 1977 compared to 1976 represented an insignificant proportion of sales. Customers did not increase imports of zirconium while decreasing purchases from the subject firm during the first three quarters of 1978 compared with the same period in 1977.

CONCLUSION

After careful review, I determine that all workers of Teledyne-Wah Chang, Albany Division, Teledyne, Incorporated, Albany, Oregon are denied eligibility to apply for adjustment assistance under title II, Chapter 2 of the Trade Act of 1974.

Signed at Washington, D.C. this 5th day of February 1979.

JAMES F. TAYLOR,
Director, Office of Management, Administration and Planning.

[FR Doc. 79-4546 Filed 2-8-79; 8:45 am]

[4510-28-M]

[TA-W-4324]

TITMUS OPTICAL, INC., PETERSBURG, VIRGINIA

Notice of Negative Determination Regarding Eligibility To Apply for Worker Adjustment Assistance

In accordance with section 223 of the Trade Act of 1974 the Department of Labor herein presents the results of TA-W-4324: investigation regarding certification of eligibility to apply for worker adjustment assistance as prescribed in section 222 of the Act.

The investigation was initiated on October 31, 1978 in response to a worker petition received on that date which was filed on behalf of workers and former workers producing eyeglass lenses, eyeglass frames, and safety eyewear at Titmus Optical, Incorporated, Petersburg, Virginia.

The Notice of Investigation was published in the FEDERAL REGISTER on November 7, 1978 (43 FR 51865). No public hearing was requested and none was held.

The determination was based upon information obtained principally from officials of Titmus Optical, Incorporated, its customers, the Optical Manufacturers Association, the U.S. Department of Commerce, the U.S. International Trade Commission, industry analysts and Department files.

In order to make an affirmative determination and issue a certification of eligibility to apply for adjustment assistance each of the group eligibility requirements of section 222 of the Act must be met.

With respect to workers producing eyeglass lenses, without regard to whether any of the other criteria have been met, the following criterion has not been met:

> that increases of imports of articles like or directly competitive with articles produced by the firm or appropriate subdivision have contributed importantly to the separations, or threat thereof, and to the absolute decline in sales or production.

U.S. imports of ophtalmic lenses decreased in quantity and value terms and decreased relative to domestic production in the first three quarters of 1978 compared to the like period in 1977. A Department survey revealed that customers that purchased imported lenses in 1977 constituted an insignificant proportion of Titmus Optical's sales and that customers who reduced purchases of lenses from Titmus Optical did not increase purchases of imported lenses in the first three quarters of 1978 compared to the same period in 1977.

With respect to workers producing eyeglass frames and safety eyewear, without regard to whether any of the other criteria have been met, the following criterion has not been met:

> that sales or production, or both, of the firm or subdivision have decreased absolutely.

Company sales and production of eyeglass frames and safety eyewear increased in 1977 from 1976 and in January-November 1978 compared to the same period in 1977.

CONCLUSION

After careful review, I determine that all workers of Titmus Optical, Incorporated, Petersburg, Virginia are denied eligibility to apply for adjustment assistance under Title II, Chapter 2 of the Trade Act of 1974.

Signed at Washington, D.C. this 1st day of February 1979.

JAMES F. TAYLOR,
Director, Office of Management, Administration and Planning.

[FR Doc. 79-4530 Filed 2-8-79; 8:45 am]

[4510-28-M]

[TA-W-4389]

TOBY FASHIONS, INC. UNION CITY, NEW JERSEY

Certification Regarding Eligibility To Apply for Worker Adjustment Assistance

In accordance with section 223 of the Trade Act of 1974 the Department of Labor herein presents the results of TA-W-4389: investigation regarding certification of eligibility to apply for worker adjustment assistance as prescribed in section 222 of the Act.

The investigation was initiated on November 14, 1978 in response to a worker petition received on November 13, 1978 which was filed on behalf of workers and former workers producing ladies' coats at Toby Fashions, Incorporated, Union City, New Jersey. The investigation revealed that the firm produced ladies' coats and raincoats.

The Notice of Investigation was published in the FEDERAL REGISTER on November 24, 1978 (43 FR 55013). No public hearing was requested and none was held.

The determination was based upon information obtained principally from officials of Toby Fashions, Incorporated, Union City, New Jersey, its customers (manufacturers), the National Cotton Council of America, the U.S. Department of Commerce, the U.S. International Trade Commission, industry analysts and Department files.

In order to make an affirmative determination and issue a certification of eligibility to apply for adjustment assistance each of the group eligibility requirements of Section 222 of the Act must be met. It is concluded that all of the requirements have been met.

U.S. imports of women's, girls' and infants' raincoats decreased from 261 thousand dozen in 1976 to 242 thousand dozen in 1977. Imports increased from 180 thousand dozen in the first three quarters of 1977 to 331 thousand dozen in the like period of 1978. The ratio of imports to domestic production decreased from 45.0 percent in 1976 to 40.3 percent in 1977.

U.S. imports of women's, misses' and children's coats and jackets increased from 2,252 thousand dozen in 1976 to 2,723 thousand dozen in 1977. Imports decreased from 2,081 thousand dozen in the first three quarters of 1977 to 1,906 thousand dozen in the like period of 1978. The ratio of imports to domestic production increased from 48.3 percent in 1976 to 54.9 percent in 1977.

A survey by the Department revealed that customers of Toby Fashions, increased purchases of imports in 1977 compared to 1976. Customers representing a significant proportion of Toby Fashions' decline in sales increased purchases of imports in the first three quarters of 1978 compared to the same period of 1977.

CONCLUSION

After careful review of the facts obtained in the investigation, I conclude that increases of imports of articles like or directly competitive with the ladies' coats and raincoats produced at Toby Fashions, Incorporated, Union City, New Jersey contributed importantly to the decline in sales or production and to the total or partial separation of workers of that firm. In accordance with the provisions of the Act, I make the following certification:

> All workers of Toby Fashions, Incorporated, Union City, New Jersey who became totally or partially separated from employment on or after December 1, 1977 are eligible to apply for adjustment assistance under Title II, Chapter 2 of the Trade Act of 1974.

Signed at Washington, D.C. this 5th day of February 1979.

JAMES F. TAYLOR,
Director, Office of Management, Administration and Planning.

[FR Doc. 79-4547 Filed 2-8-79; 8:45 am]

[4510-28-M]

[TA-W-3417]

U.S. STEEL CORP., McKEES ROCKS, PENNSYLVANIA

Revised Certification of Eligibility To Apply for Worker Adjustment Assistance

In accordance with section 223 of the Trade Act of 1974, the Department of Labor issued a certification of eligibility to apply for adjustment assistance on October 10, 1978, applicable to all workers at U.S. Steel Corporation, McKees Rocks, Pennsylvania, who became totally or partially separated from employment on or after January 1, 1978. The Notice of Certification was published in the FEDERAL REGISTER on October 20, 1978 (43 FR 49078).

At the request of the petitioner, a further investigation was made by the Director of the Office of Trade Adjustment Assistance. A review of the case revealed that a number of layoffs occurred shortly before the impact date originally set in the Department's certification. These layoffs were not covered by the original impact date.

The intent of the certification is to cover all workers producing railroad wheels at the McKees Rocks plant who were adversely affected by the decline in the production of railroad wheels related to import competition. The certification, therefore, is revised, providing a new impact date of November 10, 1976.

The revised certification applicable to TA-W-3417 is hereby issued as follows:

> All workers engaged in employment related to the production of railroad wheels at the McKees Rocks, Pennsylvania, plant of U.S. Steel Corporation who became totally or partially separated from employment on or after November 10, 1976, are eligible to apply for adjustment assistance under Title II, Chapter 2 of the Trade Act of 1974.

Signed at Washington, D.C., this 5th day of February 1979.

C. Michael Aho,
Director, Office of Foreign Economic Research.

[FR Doc. 79-4531 Filed 2-8-79; 8:45 am]

[4510-28-M]

[TA-W-4485]

U.S. STEEL CORP., BUFFALO, NEW YORK

Negative Determination Regarding Eligibility To Apply for Worker Adjustment Assistance

In accordance with Section 223 of the Trade Act of 1974 the Department of Labor herein presents the results of TA-W-4485: investigation regarding certification of eligibility to apply for worker adjustment assistance as prescribed in Section 222 of the Act. The investigation was initiated on December 6, 1978 in response to a worker petition received on November 27, 1978 which was filed on behalf of workers and former workers engaged in the sale of steel products at the Buffalo, New York sales office of the U.S. Steel Corporation. The investigation revealed that there are two separate operations: (1) Sales and (2) customer service.

The Notice of Investigation was published in the Federal Register on December 19, 1978 (43 CFR 59165). No public hearing was requested and none was held.

The determination was based upon information obtained principally from officials of the U.S. Steel Corporation and Department files.

In order to make an affirmative determination and issue a certification of eligibility to apply for adjustment assistance each of the group eligibility requirements of Section 222 of the Act must be met. With respect to employees engaged in sales operations, without regard to whether any of the other criteria have been met, the following criterion has not been met:

> That a significant number or proportion of the workers in the worker's firm, or an appropriate sub-division thereof, have become totally or partially separated, or are threatened to become totally or partially separated.

The number of sales personnel at the Buffalo office remained constant throughout 1977 and 1978. Hours worked remained constant in 1977 and 1978. The company currently has no plans to reduce the number of sales personnel at the Buffalo office.

With respect to employees engaged in customer service operations, without respect to whether any of the other criteria have been met, the following criterion has not been met:

> that increases of imports of articles like or directly competitive with articles produced by the firm or appropriate subdivision have contributed importantly to the separations, or threat thereof, and to the absolute decline in sales or production.

All of the customer service operations performed at the Buffalo office were transferred in August 1978 to a company sales office in Cleveland, Ohio. The transfer was made to take advantage of a new computer system at the Cleveland office which would provide more efficient customer service. All of the employees at the Buffalo office were offered transfers to the Cleveland office. Those employees refusing the transfer were separated.

Conclusion

After careful review, I determine that all workers of the Buffalo, New York sales office of the U.S. Steel Corporation are denied eligibility to apply for adjustment assistance under Title II, Chapter 2 of the Trade Act of 1974.

Signed at Washington, D.C., this 5th day of February 1979

James F. Taylor,
Director, Office of Management, Administration and Planning.

[FR Doc. 79-4548 Filed 2-8-79; 8:45 am]

[4510-28-M]

[TA-W-4513]

VITA COATS, INC., SOUTH EL MONTE, CALIF.

Notice of Negative Determination Regarding Eligibility To Apply for Worker Adjustment Assistance

In accordance with section 223 of the Trade Act of 1974 the Department of Labor herein presents the results of TA-W-4513: investigation regarding certification of eligibility to apply for worker adjustment assistance as prescribed in section 222 of the Act.

The investigation was initiated on December 12, 1978 in response to a worker petition received on December 8, 1978 which was filed by the International Ladies' Garment Workers' Union on behalf of workers and former workers producing ladies' coats for Vita Coats, Incorporated in South El Monte, California.

The Notice of Investigation was published in the Federal Register on December 19, 1978 (43 FR 59180). No public hearing was requested and none was held.

The information upon which the determination was made was obtained principally from officials of Vita Coats, Incorporated, its manufacturer, the U.S. Department of Commerce, the U.S. International Trade Commission, industry analysts, and Department files.

In order to make an affirmative determination and issue a certification of eligibility to apply for adjustment assistance each of the group eligibility requirements of Section 222 of the Act must be met. Without regard to whether any of the other criteria have been met, the following criterion has not been met:

> that increases of imports of articles like or directly competitive with articles produced by the firm or subdivision have contributed importantly to the total or partial separation, or threat thereof, and to the absolute decline in sales or production.

Imports of women's, misses', and children's coats and jackets decreased from January through September of 1978, when compared to the like period of 1977.

Vita Coats, Incorporated is engaged in production of ladies' coats, on a contractual basis, primarily for one manufacturer. The Department of Labor contacted this manufacturer. This manufacturer did not purchase imports in 1977 or 1978 nor did it utilize foreign production sources. Sales of this manufacturer increased from 1977 to 1978.

Conclusion

After careful review, I determine that all workers of Vita Coats, Incorporated, South El Monte, California are denied eligibility to apply for adjustment assistance under Title II, Chapter 2 of the Trade Act of 1974.

Signed at Washington, D.C. this 1st day of February 1979.

James F. Taylor,
Director, Office of Management, Administration and Planning.

[FR Doc. 79-4532 Filed 2-8-79; 8:45 am]

[4510-28-M]

[TA-W-4065]

WALKER FORGE, INC., RACINE, WISCONSIN

Notice of Negative Determination Regarding Eligibility To Apply for Worker Adjustment Assistance

In accordance with section 223 of the Trade Act of 1974 the Department of Labor herein presents the results of TA-W-4065: investigation regarding certification of eligibility to apply for worker adjustment assistance as prescribed in section 222 of the Act.

The investigation was initiated on August 15, 1978 in response to a worker petition received on August 10, 1978 which was filed by the International Brotherhood of Boilermakers, Iron Ship Builders, Blacksmiths, Forgers and Helpers on behalf of workers and former workers producing forgings at Walker Forge, Incorporated, Racine, Wisconsin.

The investigation revealed that the plant primarily produces small steel forgings for the transportation and farm equipment industries.

The Notice of Investigation was published in the FEDERAL REGISTER on August 29, 1978 (43 FR 635). No public hearing was requested and none was held.

The determination was based upon the information obtained principally from officials of Walker Forge, Incorporated, its customers, the U.S. Department of Commerce, the U.S. International Trade Commission, industry analysts, and Department files.

In order to make an affirmative determination and issue a certification of eligibility to apply for adjustment assistance each of the group eligibility requirements of Section 222 of the Act must be met. Without regard to whether any of the other criteria have been met, the following criterion has not been met:

> that increases of imports of articles like or directly competitive with articles produced by the firm or subdivision have contributed importantly to the total or partial separation, or threat thereof, and to the absolute decline in sales or production.

The Department conducted a survey of some of the customers of Walker Forge, Incorporated. Customers which decreased purchases from Walker Forge, Incorporated and increased imports of steel forgings for the period January-August 1978 as compared to the like period of 1977 represented an insignificant proportion of the firm's decline in sales.

Furthermore, U.S. imports of forgings decreased relative to domestic production in 1977 compared to 1976 and in the first six months of 1978 compared to the first six months of 1977.

CONCLUSION

After careful review, I determine that all workers of Walker Forge, Incorporated, Racine, Wisconsin are denied eligibility to apply for adjustment assistance under Title II, Chapter 2 of the Trade Act of 1974.

Signed at Washington, D.C. this 5th day of February 1979.

C. MICHAEL AHO,
Director, Office of Foreign Economic Research.

[FR Doc. 79-4549 Filed 2-8-79; 8:45 am]

[4510-28-M]

[TA-W-4497]

WASHINGTON STEEL CORP.

Notice of Termination of Investigation

Pursuant to Section 221 of the Trade Act of 1974, an investigation was initiated on December 8, 1978 in response to a worker petition received on December 6, 1978 which was filed by the United Steelworkers of America on behalf of workers and former workers producing stainless steel sheets and coils at the Washington, Pennsylvania plant of Washington Steel Corporation.

The Notice of Investigation was published in the FEDERAL REGISTER on December 19, 1978 (43 FR 59179-59180). No Public hearing was requested and none was held.

In a letter dated January 24, 1979 the petitioner requested withdrawal of the petition. On the basis of the withdrawal, continuing the investigation would serve no purpose. Consequently the investigation has been terminated.

Signed at Washington, D.C. this 2nd day of February, 1979.

MARVIN M. FOOKS,
Director, Office of Trade Adjustment Assistance.

[FR Doc. 79-4533 Filed 2-8-79; 8:45 am]

[4510-28-M]

[TA-W-4498]

WASHINGTON STEEL CORP., WASHINGTON, PENNSYLVANIA

Notice of Termination of Investigation

Pursuant to section 221 of the Trade Act of 1974, an investigation was initiated on December 8, 1978 in response to a worker petition received on December 6, 1978 which was filed by the United Steelworkers of America on behalf of workers and former workers producing stainless steel sheets and strips at the Washington, Pennsylvania plant of Washington Steel Corporation.

The Notice of Investigation was published in the FEDERAL REGISTER on December 19, 1978 (43 FR 59179-59180). No Public hearing was requested and none was held.

In a letter dated January 24, 1979 the petitioner requested withdrawal of the petition. On the basis of the withdrawal, continuing the investigation would serve no purpose. Consequently the investigation has been terminated.

Signed at Washington, D.C. this 2nd day of February, 1979.

MARVIN M. FOOKS,
Director, Office of Trade Adjustment Assistance.

[FR Doc. 79-4534 Filed 2-8-79; 8:45 am]

[4510-28-M]

[TA-W-4569]

YOUNGSTOWN STEEL PRODUCTS CO., YOUNGSTOWN, OHIO

Notice of Termination of Investigation

Pursuant to section 221 of the Trade Act of 1974, an investigation was initiated on January 2, 1979 in response to a worker petition received on December 28, 1978 on behalf of workers and former workers in the Pittsburgh, Pennsylvania District Sales Office of Youngstown Steel Products Company, Youngstown, Ohio.

The Notice of Investigation was published in the FEDERAL REGISTER on January 9, 1979 (44 FR 2033). No public hearing was requested and none was held.

The petitioning group of workers in this case is covered under certification TA-W-1464 issued on September 27, 1977. Since all workers separated, totally or partially, from the Pittsburgh District Sales Office of Youngstown Steel Products, Youngstown, Ohio on or after July 30, 1976 (impact date) and before September 27, 1979 (expiration date of the determination) are covered by an existing determination, a new investigation would serve no purpose. Consequently, the investigation has been terminated.

Signed at Washington, D.C. this 2nd day of February 1979.

MARVIN M. FOOKS,
Director, Office of Trade Adjustment Assistance.

[FR Doc. 79-4535 Filed 2-8-79; 8:45 am]

[6820-41-M]

NATIONAL ADVISORY COUNCIL ON ECONOMIC OPPORTUNITY

MEETING

FEBRUARY 5, 1979.

Pursuant to section 10 of the Federal Advisory Committee Act of 1972 notice is hereby given that the National Advisory Council on Economic Opportunity will hold a two-day meeting on March 12 and 13, 1979 at the Council office at 1725 K Street, N.W., (room 405), Washington, D.C. to discuss issues related to its 11th report. The meeting will begin at 9:30 a.m. and is open to the public.

The National Advisory Council on Economic Opportunity is authorized by section 605 of the Economic Opportunity Act of 1964, as amended, to advise the Director of the Community Services Administration on policy matters arising under the administration of the Act, to review the effectiveness and operations of programs under the Act and to make an annual report to the President.

Records shall be kept of all proceedings and shall be available for public inspection at the office of the National Advisory Council on Economic Opportunity.

WALTER B. QUETSCH,
Executive Director.

[FR Doc. 79-4465 Filed 2-8-79; 8:45 am]

[7537-01-M]

NATIONAL FOUNDATION ON THE ARTS AND THE HUMANITIES

National Endowment for the Arts

LITERATURE ADVISORY PANEL

Meeting

Pursuant to Section 10 (a) (2) of the Federal Advisory Committee Act (Pub. L. 92-463), as amended, notice is hereby given that a meeting of the Literature Advisory Panel to the National Council on the Arts will be held on March 2, 1979, from 9:00 a.m. to 5:50 p.m., and March 3, 1979, from 9:00 a.m. to 5:30 p.m., in room 1422, the columbia Plaza Office Building , 2401 E Street N.W., Washington, D.C.

This meeting is for the purpose of Panel review, discussion, evaluation, and recommendation on applications for financial assistance under the National Foundation on the Arts and the Humanities Act of 1965, as amended, including discussion of information given in confidence to the agency by grant applicants. In accordance with the determination of the Chairman published in the FEDERAL REGISTER of March 17, 1977, these sessions will be closed to the public pursuant to subsection (c) (4), (6) and 9 (B) of section 552 of Title 5, United States Code. Further information with reference to this meeting can be obtained from Mr. John H. Clark, Advisory Committee Management Officer, National Endowment for the Arts, Washington, D.C. 20506, or call (202) 634-6070.

JOHN H. CLARK,
Director, Office of Council and Panel Operations, National Endowment for the Arts.

FEBRUARY 5, 1979.

[FR Doc. 79-4454 Filed 2-8-79; 8:45 am]

[7537-01-M]

VISUAL ARTS PANEL (VISUAL ARTS IN THE PERFORMING ARTS)

Meeting

Pursuant to Section 10(a)(2) of the Federal Advisory Committee Act (Pub. L. 92-463), as amended, notice is hereby given that a meeting of the Visual Arts Advisory Panel (Visual Arts in the performing Arts) to the National Council on the Arts will be held March 1, 1979, from 9:30 a.m. to 5:30 p.m., in room 1340, the Columbia Plaza Office Building, 2401 E Street, NW., Washington, D.C.

This meeting is for the purpose of Panel review, discussion, evaluation, and recommendation on applications for financial assistance under the National Foundation on the Arts and the Humanities Act of 1965, as amended, including discussion of information given in confidence to the agency by grant applicants. In accordance with the determination of the Chairman published in the FEDERAL REGISTER of March 17, 1977, these sessions will be closed to the public pursuant to subsection (c)(4), (6) and 9(B) of section 552 of Title 5, United States Code.

Further information with reference to this meeting can be obtained from Mr. John H. Clark, Advisory Committee Management Officer, National Endowment for the Arts, Washington, D.C. 20506, or call (202) 634-6070.

JOHN H. CLARK,
Director, Office of Council and Panel Operations, National Endowment for the Arts.

FEBRUARY 5, 1979.

[FR Doc. 79-4455 Filed 2-8-79; 8:45 am]

[7555-01-M]

NATIONAL SCIENCE FOUNDATION

ADVISORY COUNCIL TASK GROUP #6

Meeting

In accordance with the Federal Advisory Committee Act, Pub. L. 92-463, as amended, the National Science Foundation announces the following meeting:

Name: Task Group #6 of the NSF Advisory Council.

Date and Time: Wednesday, February 28, 1979—9 a.m. to 5 p.m.

Place: Room 523, National Science Foundation, 1800 G Street, NW., Washington, D.C. 20550.

Type of Meeting: Open.

Contact Person: Ms. Margaret L. Windus, Executive Secretary, NSF Advisory Council, National Science Foundation, Room 518, 1800 G Street, NW, Washington, D.C. 20550. Telephone (202) 632-4368.

Purpose of Task Group: The purpose of the Task Group, composed of members of the NSF Advisory Council, is to provide the full Advisory Council with a mechanism to consider numerous issues of interest to the Council that have been assigned by the National Science Foundation.

Summary Minutes: May be obtained from the Committee Management Coordinator, Division of Financial and Administrative Management, Room 248, National Science Foundation, Washington, D.C. 20550.

Agenda: To examine the process that has been used by NSF in allocating its resoures to different fields and programs, and to make any suggestions it deems appropriate to modify or improve on existing procedures.

Dated: February 6, 1979.

M. REBECCA WINKLER,
Committee Management Coordinator.

[FR Doc. 79-4446 Filed 2-8-79; 8:45 am]

[7555-01-M]

DOE/NSF NUCLEAR SCIENCE ADVISORY COMMITTEE, 1979 FACILITIES SUBCOMMITTEE

Meeting

In accordance with the Federal Advisory Committee Act, Pub. L. 92-463, the National Science Foundation announces the following meeting:

Name: Facilities Subcommittee of the Nuclear Science Advisory Committee.

Date and Time: March 2, 1979, 9:00 am-10:00 pm; March 3, 1979, 9:00 am-5:00 pm.

Place: Conference Room 338, National Science Foundation, Washington, D.C. Telephone 202/632-4318.

Type of Meeting: March 2, 1979, closed; March 3, 1979, closed.

Contact Person: Dr. Howel G. Pugh, Head, Nuclear Science Section, Room 341, National Science Foundation, Washington, D.C. Telephone 202/632-4318.

Summary Minutes: May be obtained from the Committee Management Coordination Staff, Division of Financial and Administrative Management, National Science Foundation, Washington, D.C. 20550.

Purpose of Committee: To provide advice on a continuing basis to both DOE and NSF on support for basic nuclear science in the United States.

Agenda: March 2, 1979—Closed Session (9:00 am-10:00 pm). Discussion of projects under consideration for funding. March 3, 1979—Closed Session (9:00 am-5:00 pm). Discussion of projects under consideration for funding.

Reason for Closing: The projects being reviewed include information of a proprietary or confidential nature, including technical information, financial data such as salaries, and personal information concerning individuals associated with the proposals. These matters are within exemptions (4) and (6) of 5 U.S.C. 552b(c), Government in the Sunshine Act.

Authority To Close Meeting: This determination was made by the Committee Management Officer, pursuant to provisions of Section 10(d) of Pub. L. 92-463. The Committee Management Officer was delegated the authority to make such determinations by the Acting Director, NSF, on February 18, 1977.

M. REBECCA WINKLER,
Committee Management Coordinator.

FEBRUARY 6, 1979.

[FR Doc. 79-4445 Filed 2-8-79; 8:45 am]

[7555-01-M]

SUBCOMMITTEE ON CELL BIOLOGY OF THE ADVISORY COMMITTEE FOR PHYSIOLOGY, CELLULAR AND MOLECULAR BIOLOGY

Meeting

In accordance with the Federal Advisory Committee Act, Pub. L. 92-463, as amended, the National Science Foundation announces the following meeting:

Name: Subcommittee on Cell Biology of the Advisory Committee for Physiology, Cellular and Molecular Biology.

Date and Time: February 26, 27 and 28, 1979—9 a.m. to 6 p.m. each day.

Place: Room 338, National Science Foundation, 1800 G Street, NW, Washington, D.C. 20550.

Type of Meeting: Closed.

Contact Person: Dr. Lisolette Mezger-Freed, Program Director for Cell Biology, Room 331-B, National Science Foundation, Washington, D.C. 20550. Telephone: (202) 634-4117.

Purpose of Subcommittee: To provide advice and recommendations concerning support for research in cell biology.

Agenda: To review and evaluate research proposals as part of the selection process for awards.

Reason for Closing: The proposals being reviewed include information of a proprietary or confidential nature, including technical information; financial data, such as salaries; and personal information concerning individuals associated with the proposals. These matters are within exemptions (4) and (6) of 5 U.S.C. 552b(c), Government in the Sunshine Act.

Authority to Close Meeting: This determination was made by the Committee Management Officer pursuant to provisions of Section 10(d) of Pub. L. 92-463. The Committee Management Officer was delegated the authority to make such determinations by the Acting Director, NSF, on February 18, 1977.

Dated: February 6, 1979.

M. REBECCA WINKLER,
Committee Management Coordinator.

[FR Doc. 79-4449 Filed 2-8-79; 8:45 am]

[7555-01-M]

SUBCOMMITTEE FOR GEOGRAPHY AND REGIONAL SCIENCE OF THE ADVISORY COMMITTEE FOR SOCIAL SCIENCES

Meeting

In accordance with the Federal Advisory Committee Act, Pub. L. 92-463, the National Science Foundation announces the following meeting:

Name: Subcommittee for Geography & Regional Science.

Date and Time: February 26, 1979—8:30 a.m. to 5:00 p.m.

Place: Room 523, National Science Foundation, 1800 "G" Street, N.W., Washington, D.C.

Type of Meeting: Closed.

Contact Person: Ms. Patricia J. McWethy, Associate Program Director, Geography and Regional Science Program, Room 312, National Science Foundation, Washington, D.C. 20550, telephone (202) 634-6683.

Purpose of Panel: To provide advice and recommendations concerning support for research in Geography and Regional Science.

Agenda: To review and evaluate research proposals and projects as part of the selection process for awards.

Reason for Closing: The proposals being reviewed include information of a proprietary or confidential nature, including technical information; financial data, such as salaries; and personal information concerning individuals associated with the proposals. These matters are within exemptions (4) and (6) of 5 U.S.C. 552b(c), Government in the Sunshine Act.

Authority to Close Meeting: This determination was made by the Committee Management Officer pursuant to provisions of Section 10(d) of P.L. 92-463. The Committee Management Officer was delegated the authority to make such determinations by the Acting Director, NSF, on February 18, 1977.

M. REBECCA WINKLER,
Committee Management Coordinator.

FEBRUARY 6, 1979.

[FR Doc. 79-4444 Filed 2-8-79; 8:45 am]

[7555-01-M]

SUBCOMMITTEE ON MEMORY AND COGNITIVE PROCESSES

Meeting

In accordance with the Federal Advisory Committee Act, as amended, Pub. L. 92-463, the National Science Foundation announces the following meeting:

Name: Subcommittee on Memory and Cognitive Processes of the Advisory Committee for Behavioral and Neural Sciences.

Date and Time: February 26 and 27, 1979; 9:00 a.m. to 5:00 p.m. each day.

Place: Royal Inn of Point Loma, 4875 North Harbor Drive, Gold Room, San Diego, CA 92106.

Type of Meeting: Closed.

Contact Person: Dr. Joseph L. Young, Program Director, Memory and Cognitive Processes Program, Room 320, National Science Foundation, Washington, D.C. 20550, telephone 202-634-1583.

Purpose of Subcommittee: To provide advice and recommendations concerning support for research in Memory and Cognitive Processes.

Agenda: To review and evaluate research proposals as part of the selection processes for awards.

Reason for Closing: The Proposals being reviewed include information of a proprietary or confidential nature, including technical information; financial data, such as salaries; and personal information concerning individuals associated with the proposals. These matters are within exemptions (4) and (6) of 5 U.S.C. 552b(c), Government in the Sunshine Act.

Authority To Close Meeting: This determination was made by the Committee Management Officer pursuant to provisions of Section 10(d) of Pub. L. 92-463. The Committee Management Officer was delegated the authority to make such determinations by the Acting Director, NSF, on February 18, 1977.

M. REBECCA WINKLER,
Committee Management Coordinator.

FEBRUARY 6, 1979.

[FR Doc. 4447 Filed 2-8-79; 8:45 am]

[7555-01-M]

SUBCOMMITTEE ON POLITICAL SCIENCE

Meeting

In accordance with the Federal Advisory Committee Act, as amended, Pub. L. 92-463, the National Science Foundation announces the following meeting:

Name: Subcommittee on Political Science of the Advisory Committee for Social Sciences.

Date and Time: February 26 and 27, 1979.

Place: Room 421, National Science Foundation, 1800 G Street, N.W. Washington, D.C. 20550.

Type of Meeting: Closed—9:00 a.m. to 5:00 p.m. February 26, 1979 and 9:00 a.m. to 5:00 p.m. February 27, 1979.

Contact Person: Dr. Gerald C. Wright, Jr., Program Director, Political Science Program, Room 312, National Science Foundation, Washington, D.C. 20550, Telephone (202) 632-4348.

Purpose of Subcommittee: To provide advice and recommendations concerning support for research in Political Science.

Agenda: Closed: To review and evaluate research proposals as part of the selection process for awards.

Reason for Closing: The proposals being reviewed include information of a proprietary or confidential nature, including technical information; financial data, such as salaries; and personal information concerning individuals associated with the proposals. These matters are within exemptions (4) and (6) of 5 U.S.C. 552b(c), Government in the Sunshine Act.

Authority To Close Meeting: This determination was made by the Committee Management Officer pursuant to provisions of Section 10(d) of P.L. 92-463. The Committee Management Officer was delegated the authority to make such determinations by the Acting Director, NSF, on February 18, 1977.

M. REBECCA WINKLER,
Committee Management Coordinator.

FEBRUARY 6, 1979.

[FR Doc. 79-4448 Filed 2-8-79; 8:45 am]

[7590-01-M]

NUCLEAR REGULATORY COMMISSION

ADVISORY COMMITTEE ON REACTOR SAFEGUARDS; SUBCOMMITTEE ON THE WILLIAM H. ZIMMER NUCLEAR POWER STATION

Meeting Rescheduled

The January 17, 1979 meeting of the ACRS Subcommittee on the William H. Zimmer Nuclear Power Station has been rescheduled to be held on Tuesday, February 27, 1979, at 10:00 a.m. in Room 1046, 1717 H Street, N.W., Washington, DC 20555. The purpose of this meeting is to review the application of the Cincinnati Gas and Electric Company for a permit to operate Unit 1 of this station.

All items pertaining to this meeting remain the same as published on January 2, 1979 (44 FR 124).

Dated: February 5, 1979.

John C. Hoyle,
Advisory Committee Management Officer.

[FR Doc. 79-4439 Filed 2-8-79; 8:45 am]

[7590-01-M]

[Docket No. 50-155]

CONSUMERS POWER CO.

Issuance of Amendment to Facility Operating License

The U.S. Nuclear Regulatory Commission (the Commission) has issued Amendment No. 22 to Facility Operating License No. DPR-6, issued to Consumers Power Company (the licensee), which revised Technical Specifications for operation of the Big Rock Point Plant (the facility) located in Charlevoix County, Michigan. The amendment is effective as of its date of issuance.

The amendment changes certain provisions in Section 6 of the Technical Specifications to reflect an organizational structure which conforms to ANSI N18.7-1976 and to allow more efficient operation of the facility.

The application for the amendment complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act), and the Commission's rules and regulations. The Commission has made appropriate findings as required by the Act and the Commission's rules and regulations in 10 CFR Chapter I, which are set forth in the license amendment. Prior public notice of this amendment was not required since the amendment does not involve a significant hazards consideration.

The Commission has determined that the issuance of this amendment will not result in any significant environmental impact and that pursuant to 10 CFR 51.5(d)(4) an environmental impact statement or negative declaration and environmental impact appraisal need not be prepared in connection with issuance of this amendment.

For further details with respect to this action, see (1) the application for amendment dated December 27, 1978 and supplement thereto dated January 12, 1979, and (2) Amendment No. 22 to License No. DPR-6. All of these items are available for public inspection at the Commission's Public Document Room, 1717 H Street, N.W., Washington, D.C. and at the Charlevoix Public Library, 107 Clinton Street, Charlevoix, Michigan 49720.

A copy of item (2) may be obtained upon request addressed to the U.S. Nuclear Regulatory Commission, Washington, D.C. 20555, Attention: Director: Division of Operating Reactors.

Dated at Bethesda, Maryland, this 30th day of January, 1979.

For the Nuclear Regulatory Commission.

Dennis L. Ziemann,
Chief, Operating Reactors Branch No. 2, Division of Operating Reactors.

[FR Doc. 79-4441 Filed 2-8-79; 8:45 am]

[7590-01-M]

[Docket Nos. STN 50-596 and STN 50-597]

NEW YORK STATE ELECTRIC AND GAS CORP. AND LONG ISLAND LIGHTING CO.

Receipt of Application for Construction Permits and Operating Licenses and Availability of Environmental Report

New York State Electric and Gas Corporation (NYSE&G) and Long Island Lighting Company (LILCO), (the applicants), pursuant to Section 103 of the Atomic Energy Act of 1954, as amended, have filed an application, dated November 22, 1978 for licenses to construct and operate the proposed NYSE&G 1 and 2 Station. This application consists of general and financial information, a Preliminary Safety Analysis Report, and an Environmental Report. This application and Preliminary Safety Analysis Report were docketed on December 29, 1978 and the Environmental Report docketed on January 24, 1979. Docket Nos. STN 50-596 and STN 50-597 have been assigned to this application.

The application is for authorization to construct and operate two pressurized water reactors designated as NYSE&G 1 and 2 located at the New Haven site in the Town of New Haven, Oswego, County, New York, approximately 9 miles east of the City of Oswego, 30 miles north of Syracuse, and 2 miles south of Lake Ontario. The reactors will be designed to operate at a core power level of 3800 megawatts thermal, with an equivalent net electrical output of approximately 1250 megawatts.

This application has been docketed under one of the options of the Commission's standardization policy for nuclear power plants in accordance with 10 CFR Part 50 Appendix N. The application references the Combustion Engineering Standard Safety Analysis Report (CESSAR System 80), Docket No. 50-470. CESSAR System 80 received a Preliminary Design Approval (PDA-2) on December 31, 1975. This application also references the Stone and Webster Engineering Corporation Standard Safety Analysis Report (SWESSAR-P1), Docket No. 50-495. SWESSAR-P1 received a Preliminary Design Approval (PDA-6) on August 18, 1976.

A Notice of Hearing is being published separately, setting forth the radiological and environmental issues to be considered during the review. A date for submitting Petitions for Leave to Intervene, with specific contentions will be set forth in the Notice of Hearing.

Pursuant to 10 CFR 2.716, a portion of the hearing may be consolidated with a portion or all of the hearing held before the State of New York Board on Electric Generation Siting and the Environment (New York Siting Board) under Article VIII of the New York Public Service Law 140-149 (McKinney Supp. 1975) on environmental issues that are within the joint jurisdiction of the Commission and the New York Siting Board. Under that circumstance, that portion of the hearing would be conducted by a joint board made up of the Commission's Board and Presiding and Associate Examiners designed by the New York Siting Board. However, even if a consolidated hearing is held before a joint board, persons interested in participating in that hearing or in the Commission's radiological health and safety hearing must follow the procedures set forth in this notice for participating in the proceeding before the Commission.

The applicants have filed, pursuant to the National Environmental Policy Act of 1969 and the regulations of the Commission in 10 CFR Part 51, an Environmental Report, dated November 22, 1978. The report, which discusses environmental considerations related to the construction and operation of the proposed facilities is being made available for public inspection at the State Clearinghouse, New York State Division of the Budget, State Capitol, Albany, New York 12224 and at the Central New York Regional Planning and Development Board, Midtown Plaza, 700 East Water Street, Syracuse, New York 13210, at the Commission's Public Document Room, located at 1717 H Street, N.W., Washington, D.C. 20555 and at the Commission's Local Public Document room at the Office of the Clerk of the Oswego County Legislature, Oswego County Office Building, 46 East Bridge Street, Oswego, New York 13126. The Preliminary Safety Analysis Report is also available for public inspection at the Commission's Public Document Room and at the Local Public Document Room.

After the Environmental Report has been analyzed by the Commission's Office of Nuclear Reactor Regulation, a Draft Environmental Statement will be prepared. Upon preparation of the Draft Environmental Statement, the Commission will, among other things, cause to be published in the FEDERAL REGISTER a notice of availability of the Draft Environmental Statement, with a request for comments from interested persons on this statement. The notice will also contain a statement to the effect that comments of Federal agencies and State and local officials will be made available when received. Upon consideration of comments submitted with respect to the Draft Environmental Statement, the staff will prepare a Final Environmental Statement, the availability of which will be published in the FEDERAL REGISTER.

Dated at Bethesda, Md., this 2nd day of February, 1979.

For the Nuclear Regulatory Commission.

ALEXANDER W. DROMERICK,
Acting Chief, Light Water Reactors Branch No. 3, Division of Project Management.

[FR Doc. 79-4437 Filed 2-8-79; 8:45 am]

[7590-01-M]

[Docket Nos. STN 50-596 and STN 50-597]

NEW YORK STATE ELECTRIC AND GAS CORP. AND LONG ISLAND LIGHTING CO. (NYSE&G 1 AND 2)

Hearing of Application for Construction Permits

Pursuant to the Atomic Energy Act of 1954, as amended (the Act), and the regulations in Title 10, Code of Federal Regulations, Part 50, "Domestic Licensing of Production and Utilization Facilities," Part 51, "Licensing and Regulatory Policy and Procedures for Environmental Protection," and Part 2, "Rules of Practice for Domestic Licensing Proceedings," notice is hereby given that a hearing will be held before an Atomic Safety and Licensing Board, to consider the application filed under the Act by the New York State Electric and Gas Corporation (NYSE&G) and the Long Island Lighting Company (LILCO), applicants, for construction permits for two pressurized water nuclear reactors designated as NYSE&G 1 and 2 (the facilities), each of which will be designed to operate at a core power level of 3800 megawatts thermal, with an equivalent net electrical output of approximately 1250 megawatts. The proposed facilities are to be located on the New Haven site in the Town of New Haven, Oswego County, New York, approximately 9 miles east of the City of Oswego, 30 miles north of Syracuse, and 2 miles south of Lake Ontario.

This application has been docketed under one of the options of the Commission's standardization policy for nuclear power plants in accordance with Commission regulations 10 CFR Part 50 Appendix N. The application references the Combustion Engineering Standard Safety Anaylsis Report (CESSAR System 80), Docket No. 50-470. CESSAR System 80 received a Preliminary Design Approval (PDA-2) on December 31, 1975. This application also references the Stone and Webster Engineering Corporation Standard Safety Analysis Report (SWESSAR-P1), Docket No. 50-495. SWESSAR-P1 received a Preliminary Design Approval (PDA-6) on August 18, 1976.

The hearing, which will be scheduled to begin in the vicinity of the site of the proposed facilities, will be conducted by an Atomic Safety and Licensing Board (Board), which has been designated by the Chariman of the Atomic Safety and Licensing Board Panel. The Board consists of Dr. Oscar H. Paris, Member, Dr. Walter H. Jordan, Member, and Seymour Wenner, Esq., Chairman.

Pursuant to 10 CFR 2.785, an Atomic Safety and Licensing Appeal Board will exercise the authority and the review function which would otherwise be exercised and performed by the Commission. Notice as to the membership of the Appeal Board will be published in the FEDERAL REGISTER at a later date.

Upon completion by the Commission's staff of a favorable safety evaluation of the application and an environmental review, and upon receipt of a report by the Advisory Committee on Reactor Safeguards, the Director of Nuclear Reactor Regulation will consider making affirmative findings on Items 1-3, a negative finding on Item 4, and an affirmative finding on Item 5 specified below as a basis for the issuance of construction permits to the applicants. In the event that a separate hearing is held with respect to a limited work authorization, Item 6 below describes the matters for consideration.

ISSUES PURSUANT TO THE ATOMIC ENERGY ACT OF 1954, AS AMENDED

1. Whether in accordance with the provisions of 10 CFR 50.35(a):

(a) The applicants have described the proposed design of the facilities including, but not limited to, the principal architectural and engineering criteria for the design, and have identified the major features or components incorporated therein for the protection of the health and safety of the public;

(b) Such further technical or design information as may be required to complete the safety analysis and which can reasonably be left for later consideration, will be supplied in the final safety analysis report;

(c) Safety features or components, if any, which require research and development have been described by the applicants and the applicants have identified, and there will be conducted a research and development program reasonably designed to resolve any safety questions associated with such features or components; and

(d) On the basis of the foregoing, there is reasonable assurance that (i) such safety questions will be satisfactorily resolved at or before the latest date stated in the application for completion of construction of the proposed facilites, and (ii) taking into consideration the site criteria contained in 10 CFR Part 100, the proposed facilities can be construed and operated at the proposed location without undue risk to the health and safety of the public.

2. Whether the New York State Electric and Gas Corporation is technically qualified to design and construct the proposed facilities;

3. Whether New York State Electric and Gas Corporation and Long Island Lighting Company are financially qualified to design and construct the proposed facilities; and

4. Whether the issuance of permits for construction of the facilities will be inimical to the common defense and security or to the health and safety of the public.

ISSUE PURSUANT TO NATIONAL ENVIRONMENTAL POLICY ACT OF 1969 (NEPA)

5. Whether, in accordance with the requirements of 10 CFR Part 51, the construction permits should be issued as proposed.

ISSUES PURSUANT TO 10 CFR 2.761a (LIMITED WORK AUTHORIZATION)

6. Pursuant to 10 CFR 2.761a, a separate hearing and partial decision by the Board on issues pursuant to NEPA and general site suitability and certain other possible issues may be held and issued prior to and separate from the hearing and decision on other issues.

In the event the Board, after the hearing, makes favorable findings on such issues, the Director of Nuclear Reactor Regulation may, pursuant to 10 CFR 50.10(e) authorize the applicants to conduct certain onsite work entirely at their own risk prior to completion of the remainder of the proceeding.

In the event that this proceeding is not a contested proceeding, as defined by 10 CFR 2.4(n), the Board will determine without conducting a *de novo* evaluation of the application: (1) whether the application and the record of the proceeding contain sufficient information, the review of the application by the Commission's staff has been adequate to support the proposed findings to be made by the Director of Nuclear Reactor Regulation on Items 1-4 above, and to support, insofar as the Commission's licensing requirements under the Act are concerned, the issuance of the construction permits proposed by the Director of Nuclear Reactor Regulation; and (2) whether the NEPA review conducted by the Commission's staff has been adequate.

In the event that this proceeding becomes a contested proceeding, the Board will consider and initially decide, as issues in this proceeding, Items 1-5 above as a basis for determining whether construction permits should be issued to the applicants.

With respect to the Commission's responsibilities under NEPA, and regardless of whether the proceeding is contested or uncontested, the Board will, in accordance with 10 CFR 51.52(c): (1) determine whether the requirements of Section 102(2) (A), (C), and (E) of NEPA and 10 CFR Part 51 have been complied with in this proceeding; (2) independently consider the final balance among conflicting factors contained in the record of the proceeding for the permits with a view to determining the appropriate action to be taken; and (3) determine after weighing the environmental, economic, technical and other benefits against environmental and other costs, and considering available alternatives whether construction permits should be issued, denied, or appropriately conditioned to protect environmental values.

The Board will convene a prehearing conference of the parties, or their counsel, to be held subsequent to any required special prehearing conference, and within sixty (60) days after discovery has been completed or at such other time as the Board may specify, for the purpose of dealing with the matters specified in 10 CFR 2,752.

The Board will set the time and place for any spcial prehearing conference, prehearing conference and evidentiary hearing, and the respective notices will be published in the FEDERAL REGISTER.

Any person who does not wish, or is not qualified, to become a party to this proceeding may request permission to make a limited appearance pursuant to the provisions of 10 CFR 2.715. A person making a limited appearance may make an oral or written statement of position on the issues. A limited appearance may be made at any session of the hearing or at any prehearing conference subject to such limits and conditions as may be imposed by the Board. Persons desiring to make a limited appearance are requested to inform the Secretary of the Commission by April 10, 1979.

Any person whose interest may be affected by the proceeding, who wishes to participate as a party in the proceeding must file a written petition for leave to intervene in accordance with the provisions of 10 CFR 2.714. A petition for leave to intervene shall set forth with particularity the interest of the petitioner in the proceeding and how that interest may be affected by the results of the proceeding. The petition should specifically explain the reasons why intervention should be permitted with particular reference to the following factors: (1) the nature of the petitioner's right under the Act to be made a party to the proceeding; (2) the nature and extent of the petitioner's property, financial, or other interest in the proceeding; and (3) the possible effect of any order which may be entered in the proceeding on the petitioner's interest. The petition should also identify the specific aspect(s) of the subject matter of the proceeding as to which petitioner wishes to intervene. Any person who has filed a petition for leave to intervene or who has been admitted as a party may amend a petition, without prior approval of the presiding officer at any time up to 15 days prior to the holding of the first prehearing conference, but such an amended petition must satisfy the specificity requirements described above. A petition that sets forth contentions relating only to matters outside the jurisdiction of the Commission will be denied.

Not later than fifteen (15) days prior to the first prehearing conference scheduled in the proceeding, the petitioner shall file a supplement to the petition to intervene which must include a list of the contentions which are sought to be litigated in the matter, and the bases for each contention set forth with reasonable specificity. A petitioner who fails to file such a supplement which satisfies these requirements with respect to at least one contention will not be permitted to participate as a party.

Those permitted to intervene become parties to the proceeding, subject to any limitations in the order granting leave to intervene, and have the opportunity to present evidence and cross-examine witnesses.

Nontimely filings of petitions for leave to intervene, amended petitions, supplemental petitions and/or requests for hearing will not be entertained absent a determination by the Commission, the presiding officer or the Atomic Safety and Licensing Board designated to rule on the petition and/or request, that the petitioner has made a substantial showing of good cause for the granting of a late petition and/or request. That determination will be based upon a balancing of the factors specified in 10 CFR 2.714(a)(1)(i)-(v) and § 2.714(d).

An answer to this notice, pursuant to the provisions of 10 CFR 2.705 must be filed by the applicants by March 1, 1979.

A request for a hearing or a petition for leave to intervene shall be filed by March 12, 1979 with the Secretary of the Commission, United States Nuclear Regulatory Commission, Washington, D.C. 20555, Attention: Docketing and Service Branch, or may be delivered to the Commision's Public Document Room 1717 H Street, N.W., Washington, D.C. by the above date. A copy of the petition should also be sent to the Executive Legal Director, U.S. Nuclear Regulatory Commission, Washington, D.C. 20555, and to Roderick Schutt, Esq., Huber, Magill, Lawrence & Farrell, 99 Park Avenue, New York, New York 10016, attorney for the applicants. Pending further order of the Board, parties are required to file, pursuant to the provisions of 10 CFR 2.708, an original and twenty (20) conformed copies of each such paper with the Commission. Any questions or requests for additional information regarding the content of this notice should be addressed to the Chief Hearing Counsel, Office of the Executive Legal Director, U.S. Nuclear Regulatory Commission, Washington, D.C. 20555.

For further details, see the application for construction permits dated November 22, 1978 including site suitability information, and the applicants' Environmental Report, dated November 22, 1978, which along with any amendments or supplements thereto, are or will be available for public inspection at the Commission's Public Document Room, 1717 H Street, N.W., Washington, D.C. between the hours of 8:30 a.m and 5:00 p.m. on weekdays. Copies of these documents will also be available at the Office of the Clerk of Oswego County Legislature, Oswego County Office Building, 46 East Bridge Street, Oswego, New York 13126 for inspection by members of the public between the hours of 9 a.m. and 5 p.m. on weekdays. As they become available, a copy of the Safety Evaluation Report by the Commission's staff, the Draft and Final Environmental Statements, the report of the Advisory Committee on Reactor Safeguards (ACRS), the proposed construction permits, the transcripts of the prehearing conferences and of the hearing, and other relevant documents, will also be available at the above locations. Copies of the proposed construction permits and the ACRS report may be obtained, when available, by request to the Director, Division of Project Management, U.S. Nuclear Regulatory Commission, Washington, D.C. 20555. Copies of the Commission's staff Safety Evaluation Report and Final Environmental Statement, when available, may be purchased at current rates, from the National Technical Information Service, Department of Commerce, 5285 Port Royal Road, Springfield, Virginia 22161.

Dated at Washington, D.C. this 5th day of February, 1979.

For the Nuclear Regulatory Commission.

SAMUEL J. CHILK,
Secretary of the Commission.

[FR Doc. 79-4440 Filed 2-8-79; 8:45 am]

[7590-01-M]

STUDY OF NUCLEAR POWER PLANT CONSTRUCTION DURING ADJUDICATION

Establishment and Notice of Meetings

The Nuclear Regulatory Commission has established an advisory committee on nuclear power plant construction during adjudication. The study group's first meeting was held at NRC Headquarters, 1717 H Street, N.W., Washington, D.C. 20555 on Friday, February 2, 1979. At that meeting the group heard oral statements from members of the public and began work on its interim report to the Commission. That report, which is due 60 days after the first meeting, will discuss the group's view on the proper scope of the study, the data collection techniques to be used, the methods to be used to obtain public input and participation and any other issues the group believes should be called to the Commission's attention.

The membership of the group is as follows:

Gary Milhollin, Chairman, University of Wisconsin School of Law, Madison, Wisconsin.
John Cho, Atomic Safety and Licensing Appeal Board.
Paul F. Collins, Division of Project Management, Office of Nuclear Reactor Regulation.
John H. Frye, III, Atomic Safety and Licensing Board Panel.
Richard E. Ireland, Division of Systems Safety, Office of Nuclear Reactor Regulation.
William H. Lovelace, Office of Management and Program Analysis, Office of the Executive Director for Operations.
Stephen S. Ostrach, Office of the General Counsel.
William Parler, Office of the Executive Legal Director.
George Sege, Office of Policy Evaluation.
Miller B. Spangler, Division of Site Safety and Environmental Analysis, Office of Nuclear Reactor Regulation.

The second meeting of the study group will be at 9:00 A.M. on Friday, February 16, 1979 at NRC Headquarters, 1717 H Street, N.W., Washington, D.C., 20555. The purpose of the second meeting will be to continue work on the interim report. At this meeting there will be a limited amount of time available for members of the public to make oral statements to the study group. Written comments, addressed to the Secretary of the Commission, United States Nuclear Regulatory Commission, Washington, D.C., 20555, Attention: Docketing and Service Branch, will be accepted for one week after the meeting. The group is particularly interested in comments as to the proper scope for the study and comments relating to how public participation in he study may be maximized. At the first meeting suggestions were made that a consultant could be employed to conduct a survey of public views and that one or more study group meetings could be held outside of the Washington area to aid members of the public in presenting their views to the group.

Future meetings of the group will be held at 9:00 A.M. on the first Friday of each month and at other times as necessary. The location of future meetings may change depending upon circumstances. The Chairman of the study group is empowered to conduct the meetings in a manner that, in his judgment, will facilitate the group's work, including, if necessary, continuing or rescheduling meetings to another day.

A file of documents relevant to the group's work including a complete transcript of each meeting, memoranda exchanged between group members, and other documents is available for inspection and copying at the Commission's Public Document Room at 1717 H Street, N.W., Washington, D.C. 20555. The Secretary of the NRC maintains a mailing list for persons interested in receiving notices of the group's meetings and actions. Anyone wishing to be on that list should write to: Secretary of the Commission, Nuclear Regulatory Commission, Washington, D.C., 20555, Attention: Docketing and Service Branch.

The study group will provide its final report to the Commission by November 1, 1979. For further information on the study group's mission please call Stephen S. Ostrach, Office of the General Counsel, Nuclear Regualtory Commission (202) 634-3224.

Dated at Washington, D.C. this 6th day of Febraury, 1979.

GARY MILHOLLIN,
Chairman.

[FR Doc. 79-4438 Filed 2-8-79; 8:45 am]

[7630-01-M]

PENNSYLVANIA AVENUE DEVELOPMENT CORPORATION

BOARD OF DIRECTORS

Meeting

The Pennsylvania Avenue Development Corporation will hold a meeting of its Board of Directors on Thursday, February 15, 1979, beginning at 9:00 a.m. The meeting will be in the fourth floor conference room of the National Gallery of Art—East Building, located between Pennsylvania Avenue and Madison Drive, NW. Access will be through the Administrative and Study Center Entrance of the East Building.

The Board will consider a full agenda requiring most of the day. Items scheduled for consideration include: public improvements for Pennsylvania Avenue and Western Sector between 13th and 15th Streets, NW.; approval of affirmative action regulations; and presentations of prospective developers for the interim use of the former Lansburgh's department store building. Most of the meeting will be open to the public, subject to available space. The Chairman has determined that the meeting will be closed to the public during selection of a developer for Lansburgh's and for the time during which business terms under negotiation with the Quadrangle/Marriott development group are to be discussed. It is expected that the closed proceedings will take place after 3:30 p.m.

A complete agenda for the meeting may be obtained by request to: Ms. Barbara S. Austin, Secretary to the Board, Pennsylvania Avenue Development Corporation, 425 13th Street, N.W., Suite 1148, Washington, D.C. 20004; or, by visiting the offices of the Corporation at the foregoing address.

Dated: February 1, 1979.

PETER T. MESZOLY,
General Counsel.

[FR Doc. 79-4552 Filed 2-8-79; 8:45 am]

[8010-01-M]

SECURITIES AND EXCHANGE COMMISSION

[Release No. 10574; 811-2609]

ACACIA FUND CORP.

Filing of Application Pursuant to Section 8(f) of the Act for an Order Declaring That Applicant Has Ceased To Be an Investment Company

FEBRUARY 2, 1979.

In the Matter of Acacia Fund Corporation, 51 Louisiana Avenue NW., Washington, D.C. 20001.

Notice is hereby given that Acacia Fund Corporation, an open-end, diversified management investment company registered under the Investment Company Act of 1940 (the "Act"), filed an application on November 20, 1978, for an order of the Commission declaring that Applicant has ceased to be an investment company as defined in the Act. Applicant has never made a public offering of its securities, and does not propose to make a public offering or engage in business of any kind. All interested persons are referred to the application on file with the Commission for a statement of the representations which are contained therein and further summarized below.

Applicant is a Maryland corporation which registered under the Act on December 4, 1975. Its registration statement under the Securities Act of 1933 was filed on December 4, 1975, and became effective on December 15, 1976. However, Applicant never made a public offering of its securities.

At a Special Meeting held on October 30, 1978, a majority of the outstanding shares of the Applicant voted in favor of its dissolution and liquidation. Applicant stated that it was not engaged, nor did it propose to engage, in any business activities other than those necessary for the winding-up of its affairs. Applicant concluded that it has ceased to be an investment company.

Section 8(f) of the Act provides, in pertinent part, that whenever the Commission, upon application, finds that a registered investment company has ceased to be an investment company, it shall so declare by order and, upon the taking effect of such order, the registration of such company shall cease to be in effect.

Accordingly, Applicant has requested the Commission to issue an order pursuant to Section 8(f) of the Act declaring that it has ceased to be an investment company.

Notice is further given that any interested person may, not later than February 28, 1979, at 5:30 p.m., submit to the Commission in writing a request for a hearing on the matter accompanied by a statement as to the nature of his interest, the reason for such request, and the issues, if any, of fact or law proposed to be controverted, or he may request that he be notified if the Commission should order a hearing thereon. Any such communication should be addressed: Secretary, Securities and Exchange Commission, Washington, D.C. 20549. A copy of such request shall be served personally or by mail upon Applicant at the address stated above. Proof of such service (by affidavit, or in the case of an attorney at law, by certificate) shall be filed contemporaneously with the request. As provided by Rule 0-5 of the Rules and Regulations promulgated under the Act, an order disposing of the application will be issued as of course following February 28, 1979, unless the Commission thereafter orders a hearing upon request or upon the Commission's own motion. Persons who request a hearing, or advice as to whether a hearing is ordered, will receive any notices and orders issued in this matter, including the date of the hearing (if ordered) and any postponements thereof.

For the Commission, by the Division of Investment Management, pursuant to delegated authority.

GEORGE A. FITZSIMMONS,
Secretary.

[FR Doc. 79-4483 Filed 2-8-79; 8:45 am]

[8010-01-M]

[Release No. 10573; 811-2610]

ACACIA NATIONAL VARIABLE ANNUITY ACCOUNT A

Notice of Filing of Application Pursuant to Section 8(f) of the Act for an Order Declaring That Applicant Has Ceased To Be an Investment Company

FEBRUARY 2, 1979.

In the Matter of Acacia National Variable Annuity Account A, 51 Louisiana Avenue NW., Washington, D.C. 20001.

Notice is hereby given that Acacia National Variable Annuity Account A ("Applicant"), a unit investment trust registered under the Investment Company Act of 1940 (the "Act"), filed an application on November 20, 1978, for an order of the Commission declaring that Applicant has ceased to be an investment company as defined in the Act. Applicant has never made a public offering of its securities, and does not propose to make a public offering or engage in business of any kind. All interested persons are referred to the application on file with the Commission for a statement of the representations which are contained therein and further summarized below.

Applicant is a variable annuity separate account of Acacia National Life Insurance Company (the "Company") established pursuant to state law of Virginia on December 19, 1974. Applicant registered under the Act on December 4, 1975. Its registration statement under the Securities Act of 1933 was filed on December 4, 1975, and became effective on December 15, 1976. However, Applicant never made a public offering of its securities.

At a meeting of the Executive Committee of the Board of Directors of the Company held on November 13, 1978, a majority of such members voted in favor of the elimination of Applicant as a variable annuity separate account of the Company. At the same meeting, a majority of such members also voted that all outstanding shares of Acacia Fund Corporation, Applicant's underlying investment medium, owned by Applicant be submitted for redemption. Applicant currently has no assets, liabilities or security holders, and concludes that it has ceased to be an investment company.

Section 8(f) of the Act provides, in pertinent part, that whenever the Commission, upon application, finds that a registered investment company has ceased to be an investment company, it shall so declare by order and, upon the taking effect of such order, the registration of such company shall cease to be in effect.

Accordingly, Applicant has requested the Commission to issue an order pursuant to Section 8(f) of the Act declaring that it has ceased to be an investment company.

Notice is further given that any interested person may, not later than February 28, 1979, at 5:30 p.m., submit to the Commission in writing a request for a hearing on the matter accompanied by a statement as to the nature of his interest, the reason for such request, and the issues, if any, of fact or law proposed to be controverted, or he may request that he be notified if the Commission should order a hearing thereon. Any such communication should be addressed: Secretary, Securities and Exchange Commission, Washington, D.C. 20549. A copy of such request shall be served personally or by mail upon Applicant at the address stated above. Proof of such service (by affidavit, or in the case of an attorney at law, by certificate) shall be filed contemporaneously with the request. As provided by Rule 0-5 of the Rules and Regulations promulgated under the Act, an order disposing of the application will be issued as of course following February 28, 1979, unless the Commission thereafter orders a hearing upon request or upon the Commission's own motion. Persons who request a hearing, or advice as to whether a hearing is ordered, will receive any notices and orders issued in this matter, including the date of the hearing (if ordered) and any postponements thereof.

For the Commission, by the Division of Investment Management, pursuant to delegated authority.

George A. Fitzsimmons,
Secretary.

[FR Doc. 79-4468 Filed 2-8-79; 8:45 am]

[8010-01-M]

[Release No. 10572; 812-4416]

INVESTORS' MUNICIPAL PENNSYLVANIA TRUST, FIRST SERIES, ET AL

Notice of filing of Application for an Order of the Commission Pursuant to Section 6(c) of the Act Granting Exemptions From the Provisions of Section 14(a) of the Act and From Rules 19b-1 and 22c-1 Under the Act.

February 1, 1979.

In the matter of Investors' Municipal Pennsylvania Unit Trust First Series (and subsequent series) and Butcher & Singer Inc. 1500 Walnut Street Philadelphia, Pennsylvania 19102, Elkins, Stroud, Suplee & Co. 1700 Market Street Philadelphia, Pennsylvania 19102, Loeb, Rhoades, Hornblower & Co. 30 South 17th Street Philadelphia, Pennsylvania 19103.

Notice is hereby given that Investors' Municipal Pennsylvania Unit Trust, First Series (and Subsequent Series) (the "Fund"), a unit investment trust registered under the Investment Company Act of 1940 (the "Act") and its sponsors, Butcher & Singer Inc., Elkins, Stroud, Suplee & Co. and Loeb, Rhoades, Hornblower & Co. (the "Sponsors") (hereinafter the Sponsors and the fund are collectively referred to as "Applicants"), filed an application on January 3, 1979, and an amendment thereto on January 31, 1979, pursuant to Section 6(c) of the Act for an order of the commission exempting the Applicants from the provisions of Section 14(a) of the Act and exempting the frequency of the capital gains distributions of the Fund and the secondary market operations of the Sponsors from the provisions of Rule 19b-1 and Rule 22c-1, respectively, under the Act. All interested persons are referred to the application on file with the Commission for a statement of the representations contained therein, which are summarized below.

Series 1 of the Fund ("Series 1") is a unit investment trust, and is the first of a series of similar but separate trusts that the Sponsors intend to form (hereinafter Series 1 and all such Subsequent Series are collectively referred to as the "Series"). The Series will be created under the laws of the State of New York pursuant to separate trust agreements. The Applicants represent that the investment objective of each Series will be to seek both the preservation of capital and current distributions of tax-exempt income through the investment in a portfolio of securities consisting of (1) interest-bearing obligations of counties, municipalties, political subdivisions or authorities of the Commonwealth of Pennsylvania or of the Commonwealth of Puerto Rico (the "Bonds"), and (2) subject to specific limitations, Units of previously issued Series of the fund (the Bonds and previously issued Units are collectively referred to herein as "Trust Securities"). The Trust Securities that will constitute the portfolio of each Series will be selected in advance and will be identifiable in respect of each Series on the date of deposit with the Trustee.

The Sponsors have filed a Form S-6 Registration Statement under the Securities Act of 1933 ("1933 Act") covering fractional undivided interests in Series 1 to be offered to investors at a public offering price to be set forth in the prospectus included in the S-6 Registration Statement. The 1933 Act Registration Statement has not yet become effective. The Sponsors have also filed a Form N-8B-2 Registration Statement under the Act relating to the Fund.

Each Series of the Fund will be governed by the provisions of a trust agreement (the"Agreement") to be entered into by the Sponsors and a banking corporation organized and doing business under the laws of the United States or any State, that is authorized to exercise corporate trust powers and having at all times an aggregate capital, surplus, and undivided profits of not less than $5,000,000 ("Trustee"). It is contemplated that United States Trust Company of New York will serve as Trustee for Series 1. Standard & Poor's Corporation will serve as Evaluator for Series 1. It is planned that a separate Agreement will be entered into each time a Series is created and activated and the Trust Securities that comprise its portfolio (or delivery statements relating to contracts for the purchase of such Trust Securities together with funds represented by cash, cash equivalents and/or an irrevocale letter of credit in the amount required for their purchase) are deposited with the Trustee. Each contemplated Series will be substantially identical except as to size, number of Units, the sales charge on such Units and the individual Trust Securities in the portfolio.

When a Series of the Fund is created, the Sponsors and the Trustee will enter into an Agreement and the Trust Securities to constitute such Series of the fund (or contracts or delivery statements relating thereto and funds for the purchase thereof as set forth above) will be delivered to an deposited with the Trustee by the Sponsors. Simultaneously with the deposit of the Trust Securities that will comprise the Fund's portfolio, the Trustee will deliver to the Sponsors for sale to the public registered certificates for units of fractional undivided interest in the Fund (the "Units"). These Units will be separately offered for sale to the public at prices equal to the then aggregate offering price of the Bonds in the portfolio of the Trust divided by the number of Units outstanding plus a sales charge, after the above 1933 Act registration statement has become effective.

The Applicants state that the Trust Securities will not be pledged or be in any other way subjected to any debt at any time after they are deposited with the Trustee. The assets of the Fund may consist of Bonds initially deposited, such Bonds as may continue to be held from time to time in exchange for or substitution of any of the Bonds, accrued and undistributed interest, undistributed cash and Units of previously issued Series of the fund. Certain of the Bonds may from time to time be sold under certain circumstances, or may be redeemed or will mature in accordance with their terms. The proceeds from such dispositions will be distributed to Unitholders and will not be reinvested.

Each Unit of the Fund will represent a fractional undivided interest, the numerator of the fractional interest represented will be 1 and the denominator will be the number of Units issued and outstanding in any particular Series. Units are redeemable, and in the event that Units are redeemed, the fractional undivided interest represented by each Unit will increase accordingly. Units will remain outstanding until redeemed or until the termination of the Agreement. The Agreement may be terminated by 67% consent of the Unitholders or, by the Trustee in the event that the value of Trust Securities falls below a specified amount, and will be liquidated when Units not yet sold aggregating more than a certain number of Units are tendered for redemption by the Sponsors. The Agreement will also terminate on the earlier of the date of redemption, sale or other disposition of the last Bond held thereunder, or on a date approximately fifty years after the creation of Series 1. There is no provision in the Agreement for the issuance of any Units after the initial offering of Units (except to the extent that secondary trading in the Units by the Sponsors is deemed the issuance of Units under the Act).

The Sponsors, while under no obligation to do so, intend to maintain a market for whole Units of the Fund and to offer to purchase such Units at prices in excess of the redemption price. In the absence of such a market, Unitholders may only be able to dispose of their Units by redemption.

The organization, operation and marketing of Units of Subsequent Series of the Fund may vary in that one or more additional investment banking firms may act as sponsor or underwriter in addition to Sponsors, and the trustee and evaluator may vary. With respect to the portfolio bonds in Subsequent Series of the Fund the principal amount of bonds deposited, the percentage of unrated bonds deposited, the number of Units issued, and the sales charge on such Units may vary in Subsequent Series.

SECTION 14(a)

Section 14(a) of the Act, in substance, provides that no registered investment company and no principal underwriter for such a company shall make a public offering of securities of which such company is the issuer unless (1) the company has a net worth of at least $100,000; (2) at the time of a previous public offering it had a net worth of $100,000; or (3) provision is made that a net worth of $100,000 will be obtained from not more than twenty-five responsible persons within ninety days, or the entire proceeds received, including sales charge, will be refunded.

The Applicants seek an exemption from the provisions of Section 14(a) of the Act in order that a public offering of Units of the Fund as described above may be made. In connection with the requested exemption from Section 14(a) the Sponsor agrees (1) to refund, on demand and without deduction, all sales charges to purchasers of Units of a Series if, within ninety days from the time that a registration statement for a Series becomes effective under the 1933 Act, the net worth of the Series shall be reduced to less than $100,000, or if such Series is terminated; (2) to instruct the Trustee on the date Trust Securities are deposited in each Series that in the event that redemption by the Sponsor of Units constituting a part of the unsold Units shall result in that Series having a net worth of less than 40% of the principal amount of Trust Securities originally deposited for such Series, the Trustee shall terminate the Series in the manner provided in the Agreement and distribute any Trust Securities or other assets deposited with the Trustee pursuant to the Agreement as provided therein; and (3) in the event of termination for the reasons described in (2) above, to refund any sales charges to any purchasers of Units purchased from the Sponsor, on demand and without any deduction. Thus, the Applicants represent that it is highly unlikely that, except during the course of liquidation, the net worth of any Series would ever decline to $100,000 or less.

RULE 19b-1

Rule 19b-1 provides in substance that no registered investment company which is a "regulated investment company" as defined in Section 851 of the Internal Revenue Code shall distribute more than one capital gain dividend in any one taxable year of such investment company. Paragraph (b) of the Rule contains a similar prohibition for a company not a "regulated investment company" but permits a unit investment trust to distribute capital gain dividends received from a "regulated investment company" within reasonable time after receipt.

Distributions of interest and principal on each Series will be made to Unitholders quarterly. The Applicants represent that distributions of principal on each Series constituting capital gains to Unitholders may arise in the following instances: (1) If an issuer calls or redeems an issue of Bonds held in the portfolio, the sums received by the Fund will be distributed on a pro-rata basis to each Unitholder on the next distribution date; (2) if Units are redeemed by the Trustee and Trust Securities from the portfolio are sold to provide the funds necessary for such redemption, each Unitholder will receive his pro-rata portion of the proceeds from the Trust Securities sold over the amount required to satisfy such redemption distribution; and (3) as Bonds mature by their terms, the sums received by the Fund will be distributed on a pro-rata basis to each Unitholder on the next distribution date. In some instances, a Unitholder may receive in his distribution funds that constitute capital gains, because in some cases the value of the Trust Securities redeemed or sold may have increased since the date of their acquisition by the Fund.

As noted above, Paragraph (b) of Rule 19b-1 provides that a unit investment trust may distribute capital gain dividends received from a "regulated investment company" within a reasonable time after receipt. The Applicants assert that the purpose behind such provision is to avoid forcing unit investment trusts to accumulate valid distributions received throughout the year and distribute them only at year end, and that the operations of the Applicants in this regard are squarely within the purpose of such provision. However, in order to comply with the literal requirements of the Rule, each Series of the Fund would be forced to hold any monies that would constitute capital gains upon distribution until the end of its taxable year. The application contends that such practice would clearly be to the detriment of the Unitholders.

In support of the requested exemption, the Applicants state that the dangers which Rule 19b-1 is intended to guard against do not exist in the situation at hand because neither the Sponsor nor the Fund has control over events which might trigger capital gains, e.g., the tendering of Units for redemption and the prepayment of portfolio Bonds by the issuers. In addition, it is contended that any capital gains distribution will be clearly indicated as capital gains in the accompanying report by the Trustee to the Unitholder. Finally, Applicants argue that the amounts which will be involved in a normal distribution of principal will be relatively small in comparison with normal interest distributions.

RULE 22c-1

The Applicants state that following the initial offering period, the Sponsor, while not obligated to do so, intends to offer to purchase whole Units in the secondary market at prices based on the offering side evaluation of the Trust Securities in any Series, determined on the last business day of each week, effective for all sales made during the following week.

The Applicants also state that the Sponsor has undertaken to adopt a procedure whereby the Evaluator, without a formal evaluation, will provide estimated evaluations on trading days. In the case of a repurchase, if the Evaluator cannot state that the previous Friday's price is at least equal to the current bid price, the Sponsor will order a formal evaluation. The Sponsor agrees that, in the case of the resale of Units in the secondary market, if the Evaluator cannot state that the previous Friday's price is not more than one-half point ($5.00 on a unit representing $1,000.00 principal amount of underlying Trust Securities) greater than the current offering price, a formal evaluation will be ordered. Under these circumstances the Applicants contend that the exemption of the Sponsor from the provisions of Rule 22c-1 will in no way affect the operations of the Fund and will benefit the Unitholders by providing a repurchase price for their Units that is in excess of the current net asset value of such Units as computed for redemption purposes.

Rule 22c-1 provides, in pertinent part, that no registered investment company issuing any redeemable security, and no dealer in any such security, shall sell, redeem, or repurchase any such security except at a price based on the current net asset value of such security which is next computed after receipt of a tender of such security for redemption or of an order to purchase or sell such security.

The Applicants state that Rule 22c-1 has two purposes: (1) to eliminate or to reduce any dilution of the value of outstanding redeemable securities of registered investment companies which might occur through the sale, redemption or repurchase of such securities at prices other than their current net asset values; and (2) to minimize speculative trading practices in the securities of registered investment companies.

The secondary market activities of the Sponsor and the manner for the acquisition by investors of new Units, may be deemed to violate Rule 22c-1 because of the absence of daily pricing. The Applicants contend, however, that the purposes of Rule 22c-1 will not be frustrated by the Sponsor in the proposed secondary market activities. The Applicants assert that the pricing of Units by the Sponsor in the secondary market will in no way dilute the assets of the Fund, and that Unitholders will benefit from the Sponsor's pricing procedure in the secondary market because they will normally receive a higher repurchase price for their Units than they could obtain by redeeming their Units at the current net asset value, and that this will be accomplished without the cost burden to the Fund of daily evaluations of the Units' redemption value.

The Applicants also contend that speculation in Units of any Series is unlikely because price changes are limited in respect to the kind of Trust Securities that will be held by such Series. In addition, the Applicants argue that because of the nature of the Trust Securities price changes are gradual and depend largely on general changes in interest rates. To avoid the Sponsors receiving more than the specified sales charge, the Sponsors have agreed that any Units held by them may be tendered to the Trustee for redemption, provided that the Sponsors not receive for Units purchased a higher price than they paid, plus accrued interest.

The Applicants therefore request an exemption from the provisions of Rule 22c-1 for Series 1 and for all subsequently created Series insofar as the Rule may apply after completion of the primary distribution of Units of such Series.

Section 6(c) of the act provides, in pertinent part, that the Commission, by order upon application, may conditionally or unconditionally exempt any person, security, or transaction, or any class or classes of persons, securities or transactions, from any provision of the Act or of any rule or regulation under the Act, if and to the extent such exemption is necessary or appropriate in the public interest and consistent with the protection of investors and the purposes fairly intended by the policy and provisions of the Act.

Notice is further given that any interested person may, not later than February 26, 1979, at 5:30 P.M., submit to the Commission in writing a request for a hearing on the application accompanied by a statement as to the nature of his interest, the reasons for such request, and the issues, if any, of fact or law proposed to be controverted, or he may request that he be notified if the Commission shall order a hearing thereon. Any such communication should be addressed: Secretary, Securities and Exchange Commission, Washington, D.C. 20549. A copy of such request shall be served personally or by mail upon the Applicants at the address stated above. Proof of such service (by affidavit, or in the case of an attorney-at-law by certificate) shall be filed contemporaneously with the request. As provided by Rule 0-5 of the Rules and Regulations promulgated under the Act, an order disposing of the application herein will be issued as of course following said date unless the Commission thereafter orders a hearing upon request or upon the Commission's own motion. Persons, who request a hearing or advice as to whether a hearing is ordered, will receive any notices and orders issued in this matter, including the date of the hearing (if ordered) and any postponements thereof.

For the Commission, by the Division of Investment Management, pursuant to delegated authority.

George A. Fitzsimmons,
Secretary.

[FR Doc. 79-4476 Filed 2-8-79; 8:45 am]

[8010-01-M]

[Release No. 34-15546; File No. SR-NSCC-78-11]

NATIONAL SECURITIES CLEARING CORP.

Self-Regulatory Organizations; Proposed Rule Change

Pursuant to section 19(b)(1) of the Securities Exchange Act of 1934, 15 U.S.C. 78s (b)(1), as amended by Pub. L. No. 94-29, 19 (June 4, 1975), notice is hereby given that on January 29, 1979, the above-mentioned self-regulatory organization filed with the Securities and Exchange Commission a proposed rule change as follows:

Text of Proposed Rule Change

Section V (SPECIAL SERVICE FEES), subsection H.2 of National Securities Clearing Corporation's (NSCC) SCC Division Fee Schedule is proposed to be amended as follows (italics indicate material to be added, brackets indicate material to be deleted):

For each physical item deposited *by NSCC* to a participant's account in a depository [by NSCC] *for credit to the participant in the depository's day cycle processing for the next business day, $0.50.*

For each physical item deposited to a participant's account in a depository for credit in the depository's night cycle processing for the next business day, $0.70.

Statement of Basis and Purpose

The basis and purpose of the foregoing proposed rule change is as follows:

The proposed rule change establishes a fee to be charged in connection with NSCC's depository accommodation service in the situation wherein a participant requests that NSCC transport and deposit physical securities into the participant's depository account for credit in the depository's night cycle processing for the next business day. The proposed rule change does not impact the fees charged in connection with other depository handling services, including physical deliveries to a participant's account for credit in the depository's day cycle processing for the next business day.

The existing depository handling services regarding physical deliveries to a participant's account (i.e., $0.50 per item) are available to participants at all NSCC Regional Facilities. NSCC's regular courier agreements and operations are utilized to provide these services.

The (expedited) depository accommodation service will only be available to participants at certain NSCC Regional Facilities. The service, which provides for expedited handling and depository credit in the upcoming night cycle processing, carries a $0.70 per item fee and will only be available where NSCC has been able to enter into appropriate courier or local banking arrangements, on a cost basis equivalent to the $0.70 per item charge.

As with other fees, Transportation and Insurance expenses would be charged separately pursuant to Section VIII.

The proposed rule change relates to the equitable allocation of reasonable dues, fees and other charges among its participants by allocating the additional costs of processing the depository items specified herein only to those participants whose use of the NSCC depository accommodation service gives rise to such additional costs. As with all fees, NSCC will, on the basis of operational experience, include the fee established hereby in the updating and revising of its fee schedule, as set forth in Securities Exchange Act Release No. 15222 (October 6, 1978).

No comments on the proposed rule change have been solicited or received.

NSCC does not perceive that the proposed rule change would constitute a burden on competition.

The foregoing rule change has become effective, pursuant to Section 19(b)(3) of the Securities Exchange Act of 1934. At any time within sixty days of the filing of such proposed rule change, the Commission may summarily abrogate such rule change if it appears to the Commission that such action is necessary or appropriate in the public interest, for the protection of investors, or otherwise in furtherance of the purposes of the Securities Exchange Act of 1934.

Interested persons are invited to submit written data, views and arguments concerning the foregoing. Persons desiring to make written submissions should file 6 copies thereof with the Secretary of the Commission, Securities and Exchange Commission, Washington, D.C. 20549. Copies of the filing with respect to the foregoing and of all written submissions will be available for inspection and copying in the Public Reference Room, 1100 L Street, N.W., Washington, D.C. Copies of such filing will also be available for inspection and copying at the principal office of the above-mentioned self-regulatory organization. All submissions should refer to the file number referenced in the caption above and should be submitted on or before March 5, 1979.

For the Commission by the Division of Market Regulation, pursuant to delegated authority.

George A. Fitzsimmons,
Secretary.

February 2, 1979.

[FR Doc. 79-4467 Filed 2-8-79; 8:45 am]

[Release No. 15545; SR-NYSE-79-1, SR-NYSE-79-2]

NEW YORK STOCK EXCHANGE, INC.

February 1, 1979.

Order Approving Proposed Rules Changes

In the Matter of New York Stock Exchange, Inc., 11 Wall Street, New York, New York 10005.

On January 19, 1979, the New York Stock Exchange, Inc. ("NYSE") filed with the Commission, pursuant to Section 19(b)(1) of the Securities Exchange Act of 1934, 15 U.S.C. 78(s)(b)(1) (the "Act") and Rule 19b-4 thereunder, copies of proposed rules changes which modify existing NYSE Rules 410 (Records of Orders), 108 (Limitations of Members' Bids and Offers), and 112 (Restrictions of Registered Traders), and add new Rule 90 (Dealings by Members on the Exchange). The principal purpose of these amendments is to conform the NYSE Rules to the requirements of Section 11(a)(1) of the Act and the rules promulgated thereunder which become fully applicable to all members of national securities exchanges on February 1, 1979.

Notice of the proposed rules changes together with the terms of substance of the proposed rules changes was given by publication of Commission Releases (Securities Exchange Act Release Nos. 15534 and 15535 (January 29, 1979)) and by publication in the Federal Register (44 FR 6239 and 44 FR 6240 (January 31, 1979)). All written statements with respect to the proposed rule change which were filed with the Commission and all written communications relating to the proposed rule change between the Commission and any persons were considered and (with the exception of those statements or communications which may be withheld from the public in accordance with the provisions of 5 U.S.C. § 552) were made available to the public at the Commission's Public Reference Room.

Description of Proposed Rules Changes

SR-NYSE-77-1 contains an amendment to NYSE Rule 410 which would require members (and member organizations) who transmit or carry orders to the floor to be executed in reliance upon the exemption to Section 11(a)(1) set forth in paragrah (G) thereunder (the so-called "business mix" exemption), to place an identifying notation on every such order. In addition, proposed new NYSE Rule 90 would provide, among other things, that (i) no bid or offer made by a member on an order for the account of such member, or any other member or member organization subject to Section 11(a)(1)(G) of the Act and Rule 11a1-1(T) [17 CFR 240.11a1-1(T)] thereunder shall be entitled to priority over, parity with, or precedence based on size over, any order which is for the account of a person who is not a member, member organization or an associated person thereof and that (ii) immediately before executing an order pursuant to Section 1(a)(1)(G) of the Act and Rule 11a1-1(T) thereunder, a member (other than the specialist in such security) shall clearly announce or otherwise indicate to the specialist and to other members then present in the trading crowd in such security that he is representing an order to be executed pursuant to Section 11(a)(1)(G) of the Act and Rule 11a1-1(T).

SR-NYSE-79-2 sets forth modifications to NYSE Rules 108 and 112. As amended, NYSE Rule 108 would allow a bid or offer made by a member or made on an order for stock originated by a member while on the NYSE floor to establish or increase a position in such stock for an account in which such member has an interest to maintain parity with (or precedence based on size over) a bid or offer made on an order originiated off the NYSE floor and being executed pursuant to Section 11(a)(1)(G) of the Act and Rule 11a1-1(T) thereunder. Absent this amendment of NYSE Rule 108, and the NYSE would have to require members to identify separately on and off-floor orders to be executed pursuant to the business-mix exemption to insure that the yielding of parity and precedence based on size among such orders would occur in accordance with the provisions of existing NYSE Rule 108. Neither Section 11(a)(1)(G) nor Rule 11a-1(T) impose yielding requirements between the on and off-orders of members executed pursuant to these provisions.

The proposals also would amend paragraph (c) of NYSE Rule 112 (governing registered traders) to provide that no registered trader shall, for an account in which he has an interest, while on the NYSE floor, retain priority over, parity with or precedence based on size over an off-floor order when establishing, increasing or liquidating a prosition except if the off-floor order is to be executed pursuant to Section 11(a)(1)(G) of the Act and Rule 11a1—1(T) thereunder. Amendments to the interpretive material pertaining to NYSE Rule 112 clarify that limitations governing a registered trader's execution of on-floor orders for an account in which any such member has an interest continue in effect even though such orders may be given to commission brokers or specialists for execution. Finally, the interpretive material to NYSE Rule 112 is amended to allow a specialist, if bidding for his own account, to establish or increase a position, to have parity with or precedence based on size over an off-floor order to be executed pursuant to Section 11(a)(1)(G) of the Act and Rule 11a1-1(T) thereunder.

Commission Findings

The Commission finds that the proposed rules changes are consistent with the requirements of the Act and the rules and regulations therunder applicable to registered national securities exchanges and in particular, the requirements of Sections 6, 11(a) and the rules and regulations thereunder.[1]

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[1] This finding constitutes approval only of the specific additions and deletions made in the cited rules in File Nos. SR-NYSE-79-1 and 79-2 and thus should not be construed as a statement by the Commission that any such rule, as amended, has necessarily been brought into full compliance with the Act if

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Section 19(b)(2) of the Act permits the Commission to approve a proposed rule change submitted by a self-regulatory organization prior to the thirtieth day after the date of publication of notice filing thereof if the Commission finds good cause for doing so and publishes its reasons for so finding.

The principal purpose of the instant rule proposals is to conform the NYSE rules to the requirements of Section 11(a)(1) of the Act, and the Commission's rules adopted thereunder and to assure that the NYSE has the capacity to enforce compliance with these provisions. Accordingly, since Section 11(a)(1) is to be fully effective on February 1, 1979, the Commission finds good cause for approving the proposed rules changes prior to the thirtieth day after the date of publication of the notices of their filing.

It is therefore ordered, pursuant to Section 19(b)(2) of the Act, that the above-mentioned proposed rules changes be, and they hereby are, approved.

For the Commission, by the Division of Market Regulation pursuant to delegated authority.

GEORGE A. FITZSIMMONS,
Secretary.

[FR Doc. 79-4484 Filed 2-8-79; 8:45 am]

[8010-01-M]

[Release No. 20912; 70-6257]

SOUTHERN CO.

Notice of Proposed Issuance and Sale of Common Stock Pursuant to a Dividend Reinvestment Plan and an Employee Savings Plan

FEBRUARY 2, 1979.

In the matter of The Southern Company, Perimeter Center East, P.O. Box 720071, Atlanta, Georgia 30346.

Notice is hereby given that The Southern Company ("Southern"), a registered holding company, has filed an application-declaration and an amendment thereto with this Commission pursuant to the Public utility Holding Company Act of 1935 ("Act"), designating Sections 6(a) and 7 of the Act and Rule 50(a) (5) promulgated thereunder as applicable to the proposed transactions. All interested persons are referred to the application-declaration, which is summarized below, for a complete statement of the proposed transactions.

Southern proposes to issue and sell up to 6,000,000 shares of its authorized but unissued common stock, par value $5 per share, ("Additional Common Stock"), in addition to the balance of 867,289 shares at December 31, 1978 remaining in the authority granted by the Commission in File No. 70-6130, pursuant to its Dividend Reinvestment and Stock Purchase Plan ("Dividend Plan"). It is anticipated that such shares will be issued and sold from time to time through April 30, 1981, the majority of such shares being sold on or prior to April 30, 1980. Southern proposes to apply the proceeds from the sale of the shares (such proceeds estimated to be approximately $87,750,000) to such further equity investments as will have been authorized by the Commission in a subsequent filing in respect of such investments and for other corporate purposes.

The Additional Common Stock will be offered to all holders of record of Southern's common stock pursuant to a voluntary plan whereby shareholders may elect to (1) have cash dividends on all of their shares of Southern common stock automatically reinvested in shares of common stock at a price equal to 95% of the average of the high and low sale prices of Southern's common stock, as published in The Wall Street Journal on the dividend payment date (or the next preceding day on which the New York Stock Exchange is open, if it is closed on the dividend payment date), such average of the high and low sale prices being hereinafter referred to as the "Market Price Average", or (2) reinvest less than all of their dividends in shares of common stock at a price equal to 95% of the Market Price Average, or (3) reinvest all or less than all of their dividends as described above and, in addition, make optional cash payments (not less than $25 per payment nor more than a total of $3,000 per quarter) to invest in shares of common stock at a price equal to 100% of the Market Price Average, or (4) continue to receive cash dividends on all shares registered in their names and invest only optional cash payments. All dividends on shares credited to a participant's account under the Dividend Plan will be reinvested in shares of common stock at a price equal to 95% of the Market Price Average. No shares will be sold under the Dividend Plan at less than the par value of such shares.

The First National bank of Atlanta currently administers the Dividend Plan and makes purchases of shares as agent for the participants. No service charge or commission will be paid by participants in connection with purchases under the Dividend Plan.

Participants will retain all voting rights relating to shares purchased under the Dividend Plan and credited to their accounts, and shares will be voted in accordance with the instructions of the participant to whose account they are credited.

A participant will be able to withdraw from the Dividend Plan at any time upon written notice. Upon withdrawal, the participant will be issued, without charge, a certificate for the number of shares credited to his account and will receive a cash payment for the value of any fractional share, which cash payment will be based on the closing sale price of Southern's common stock, as published in The Wall Street Journal on the next business day following the day the withdrawal reuest is received, less any related brokerage commisson and transfer tax. Without withdrawing from the Dividend Plan, a participant will be entitled to demand and receive a certificate representing the full shares of common stock credited to his account. Southern reserves the right to suspend, modify (subject to Commission approval) or terminate the Dividend Plan at any time.

All shareholders (both participants and non-participants in the Dividend Plan) will be mailed a copy of a prospectus describing the Plan and advising the non-participating shareholders as to the manner by which they may participate therein. A prospectus will also be sent to all those who become shareholders after the initial mailing thereof. The continued existence of the Dividend Plan will occasionally be brought to the attention of non-participants by a remailing of the prospectus.

Southern further proposes to issue and sell a maximum of 1,500,000 shares of its authorized but unissued common stock, par value $5 per share (the "New Stock"), in addition to the balance of 576,558 shares at December 31, 1978 remaining in the authority granted by this Commission in File No. 70-6130, pursuant to the Employee Savings Plan for The Southern Company System ("Savings Plan"). It is anticipated that the New Stock will be issued and sold from time to time through April 30, 1981. Southern proposes to apply proceeds from the sale of the New Stock (such proceeds estimated to be approximately $21,938,000) to such further equity investments as will have been authorized by the Commission in a subsequent filing in respect of such investments and for other corporated purposes.

The New Stock will be offered to employees of Southern's subsidiaries pursuant to a voluntary plan under which employees may contribute, through payroll deductions, not less than 2% nor more than 12% of their compensation (base salary or wages). Each employing company will contribute, on behalf of each of the Savings Plan members in its employ, an amount

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that rule is subject to the Commission's review pursuant to Section 31(b) of the Securities acts Amendments of 1975 (Pub. L. 94-29 (June 4, 1975)). *See* Securities Exchange Act release No. 13027 (December 1, 1976).

equal to 50% of such of the member's contributions as are not in excess of 6% of the member's compensation. The First National Bank of Atlanta acts as Trustee for the trust which is part of the Savings Plan, and the Savings Plan is administered by the Savings Plan Committee, the members of which are appointed by the Board of Directors of Southern Company Services, Inc.

Each Savings Plan member must direct that his contributions be invested in one or more of three funds: (1) Company Stock Fund—consisting of Southern's common stock; (2) Equity Fund—consisting of common or capital stocks and securities convertible into common or capital stock (other than securities issued by or convertible into securities issued by Southern or any of its subsidiaries), short-term investments, and investments in certain commingled trust funds; (3) Fixed Income Fund—consisting of direct obligations of the U.S. Government and its agencies, corporate bonds, debentures, notes, certificates of indebtedness, evidences of indebtedness of Southern or its subsidiaries or affiliates, savings account deposits and investments in certain commingled trust funds. All employing company contributions are invested in the Company Stock Fund.

An employee is eligible to participate in the Savings Plan if: (a) he is at least 21 years of age and (b) he has completed at least one year of service (in which he has completed at least 1,000 hours of service) with one or more Southern subsidiaries. Any employee represented by a collective bargaining agent may not participate in the Savings Plan unless the representatives of his bargaining unit and the employing company mutually agree to participation in the Savings Plan by members of the bargaining unit.

The amount of an employee's contributions may be changed by the employee if the employee gives at least sixty days notice of such change. By delivering at least thirty days prior notice, an employee may voluntarily suspend the making of contributions for a period of not less than six months. The member's direction as to the fund or funds in which his contributions are to be invested will continue in effect until changed by the member, and the member may change such investment direction once in each year. A separate account is established for each member, and each member is furnished a statement of his account annually and upon any distribution or withdrawal. The amount to the credit of a member's account attributable to his own contributions is fully vested in the member at all times. Amounts attributable to employing company contributions are fully vested in the member upon his death or retirement pursuant to the pension plan of his employing company. Prior to those events, the amount to the credit of a member's account attributable to employing company contributions is vested in the member in accordance with a schedule which begins with a 50% vesting after five years of service and increases by 5% with each year of service thereafter until, after 15 years of service, these amounts are fully vested. Any amounts not vested upon a member's termination of employment are forfeited and will be applied as a credit to reduce subsequent contributions of the employing company.

While remaining in employment, a member may, upon giving sixty days prior written notice to his employing company, withdraw all or certain portions of the amount to his credit, but, if such withdrawal is made other than under circumstances which the Savings Plan Committee determines to constitute a financial emergency in the affairs of the member, the member's contributions and those of his employing company will be suspended for certain periods of time as provided by the Savings Plan.

The Trustee will vote the shares of common stock of Southern held by it in accordance with written directions received from the individual members on whose behalf such shares are held and will not vote any such shares for which voting instructions are not received. The Trustee has the authority to vote all other securities in its discretion. No certificate or document evidencing participation in the Savings Plan is issued.

Brokerage fees, commissions, transfer taxes and other expenses incident to the purchase or sale of securities by the Trustee are deemed to be a part of the cost of such securities or deducted in computing the proceeds therefrom, as the case may be, and shall be paid from the trust fund. Any transfer taxes in connection with the distribution of Southern common stock to members or their beneficiaries will be borne by the accounts of the members as the Savings Plan Committee shall determine. Taxes, if any, payable with respect to the assets or income of the fund will be charged against the accounts of members. Other expenses of administering the Savings Plan will be paid by Southern Company Services, Inc. subject to reimbursement by the other employing companies of their proportionate shares of such expenses.

The Board of Directors of Southern Company Services, Inc. has the right to amend or terminate the Savings Plan in whole or in part. Any employing company may, by action of its board of directors and approval by the Board of Directors of Southern Company services, Inc., suspend or terminate the making of contributions of members in the employ of such employing company and of contributions by such employing company. In the event of termination or partial termination or upon complete discontinuance of contributions under the Savings Plan by all employing companies or by any one employing company, the amount to the credit of the accounts of each member whose employing company shall be affected by such termination or discontinuance shall become nonforfeitable and will be distributed to the member as soon as practicable after such termination or discontinuance.

Investment purchases by the Trustee for the funds may be made either on the open market or by private purchase, provided that no private purchase may be made of common stock of Southern at a price greater than the last sale price or current independent bid price, whichever is higher, for such stock on the New York Stock Exchange, plus an amount equal to the commission payable in a stock exchange transaction if such private purchase is not made from Southern. The Trustee may purchase common stock of Southern directly from Southern under the Dividend Plan or under any other similar plan made available to all holders of record of shares of common stock of Southern, at the purchase price provided for in such plan.

A statement of the fees and expenses to be incurred in connection with the proposed transaction will be filed by amendment. It is stated that no state commission and no federal commission, other than this Commission, has jurisdiction over the proposed transactions.

Notice is further given that any interested person may, not later than March 1, 1979, request in writing that a hearing be held on such matter, stating the nature of his interest, the reasons for such request, and the issues of fact or law raised by the filing which he desires to controvert; or he may request that he be notified if the Commission should order a hearing thereon. Any such request should be addressed: Secretary, Securities and Exchange Commission, Washington, D.C. 20549. A copy of such request should be served personally or by mail upon the applicants-declarants at the above-stated address, and proof of service (by affidavit or, in case of an attorney at law, by certificate) should be filed with the request. At any time after said date, the application-declaration, as amended or as it may be further amended, may be granted and permitted to become effective as provided in Rule 23 of the General Rules and Regulations promulgated under the Act, or the Commission may grant exemption from such rules as provided in Rules 20(a) and 100 thereof or take such other action as it may deem appropriate. Persons who request a hearing or advice as to whether a hearing is ordered will receive any notices or orders issued in this matter, including the date of the hearing (if ordered) and any postponements thereof.

For the Commission, by the Division of Corporate Regulation, pursuant to delegated authority.

George A. Fitzsimmons,
Secretary.

[FR Doc. 79-4469 Filed 2-8-79; 8:45 am]

[4910-06-M]

DEPARTMENT OF TRANSPORTATION

Federal Railroad Administration

[FRA Emergency Order No. 11]

LOUISVILLE AND NASHVILLE RAILROAD CO.

Emergency Order Limiting Movement of Hazardous Materials

The Federal Railroad Administration (FRA) of the Department of Transportation (DOT) has determined that considerations of public safety necessitate the issuance of an Emergency Order placing certain limitations on the movement of railroad freight cars containing materials required to be placarded in accordance with DOT regulations, 49 CFR Parts 170-189 (placarded hazardous materials cars), by the Louisville and Nashville Railroad Company (L&N), and by other railroads over L&N-owned or leased track.

On the basis of both the results of repeated safety inspections conducted by FRA throughout the L&N's system and the great number of accidents reported to FRA by the L&N over the past 3 years, FRA is convinced that serious safety deficiencies permeate all phases of L&N freight operations and create a substantial and constant risk to the health and safety of the public, particularly where those operations involve the transportation of placarded hazardous materials cars.

Recent L&N Hazardous Materials Accidents

Within the last 3 months, the L&N has had numerous derailments of trains that were transporting placarded hazardous materials cars, several of which led to evacuations and releases of hazardous materials. On January 27, 1979, near Chef Menteur, Louisiana, 18 freight cars moving in an L&N freight train, including a placarded hazardous materials car containing propane, derailed as the result of a broken rail. On December 26, 1978, a placarded hazardous materials car containing propane gas derailed at the L&N's yard in Atala, Alabama, forcing the evacuation of approximately 1,000 people.

On December 13, 1978, an L&N freight train hauling three placarded hazardous materials cars containing sulfuric acid derailed near High Cliff, Tennessee. One of those cars ruptured as a result of the accident, and fumes created by that release of acid forced the evacuation of approximately 75 people. Preliminary investigation of that accident indicates that it was caused by a defective track condition (excessive change in cross level) on a curve. That condition was created as a result of improper repairs performed by the L&N to correct track damage caused by another L&N freight train derailment at approximately the same site on December 11, 1978. With blatant disregard for the safety of its employees and the public, the L&N accomplished these track rapairs hurriedly and haphazardly. As a consequence, L&N failed to bring such track back into compliance with certain Federal regulations (49 CFR 213.63). Despite the presence of that serious track deficiency, which would have been obvious to any qualified track inspector and which created a severe derailment hazard, the L&N reopened that section of track to traffic, including trains hauling placarded hazardous materials cars. This cavalier attitude by the L&N towards the safety of the public has been exhibited on numerous other occasions.

On November 27, 1978, near Appalachian, Tennessee, an L&N freight train hauling eight tank cars containing sulfuric acid derailed. As a result of the derailment, one of those cars released a portion of its contents, which spilled into a river and caused extensive damage to aquatic life. Preliminary investigation indicated that the derailment was caused by wide gage resulting from deteriorated ties. On November 30, 1978, another L&N freight train hauling three placarded hazardous materials cars containing liquefied petroleum gas derailed at the November 27 derailment site. A preliminary investigation indicated that the derailment was caused by an excessive rate of change in the cross level of the track at the derailment site, which was in violation of applicable Federal regulations.

Approximately 5 weeks (October 18, 1978) prior to the first Appalachian derailment, another L&N freight train hauling tank cars containing sulfuric acid derailed near Madisonville, Tennessee. One of those cars was punctured, and another developed a leak as a result of the derailment. Fumes resulting from the release of acid injured four people and necessitated the evacuation of approximately 3,550 people. Preliminary investigation indicated that the derailment was caused, at least in part, by a track condition (variation in cross level) that was not in compliance with applicable Federal regulations. More important, the condition of the track in the area of the defect indicated that the contributing conditions had been present for some time prior to the derailment and should have been obvious to any qualified track inspector. The L&N's track inspectors, however, failed to detect the defect (and take appropriate corrective action) during a number of track inspections conducted prior to that mishap. The L&N's failure to take appropriate steps either to correct that track defect or to reduce the safety risk that it created by ordering a speed reduction over that section of track illustrates a recurring flaw in the L&N's operating philosophy that has been largely responsible for its poor safety record. In many circumstances, L&N management has exhibited great reluctance to take any measures to ensure the safety of its operations if such measures were perceived by management to be detrimental to operational expediency.

As documented more fully below, the Chef Menteur, Atala, High Cliff, Appalachian, and Madisonville accidents are merely the most recent examples of a long series of L&N accidents that have occurred as a direct result of safety deficiencies in L&N operations involving placarded hazardous materials cars.

Thirty-Month History of L&N Hazardous Materials Accidents

During the period between January 1, 1976 and June 30, 1978, the L&N reported to FRA rail equipment accidents[1] that resulted in the release of hazardous materials from 42 placarded hazardous materials cars at various locations within seven different states (Indiana, Kentucky, Tennessee, Mississippi, Alabama, Georgia and Florida). Those accidents resulted in 19 deaths, approximately 71 serious injuries, and necessitated the evacuation of approximately 7,280 people. The L&N's reported figures with respect to the number of deaths, injuries, and persons evacuated as a result of such accidents exceeded the totals reported in each of those categories by every other Class I line haul railroad in the nation.[2] In fact, the next highest

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[1] Rail equipment accidents include collisions, derailments, fires, explosions, acts of God, or other events involving the operation of railroad on-track equipment (standing or moving) that result in more than $2,900 ($1,750 effective December 9, 1974 and $2,300 effective November 10, 1976) in damages to railroad on-track equipment, signals, track, track structures, or roadbed, including labor costs and all other costs for repair or replacement in kind.

[2] For calendar years 1976 and 1977, Class I line haul railroads included any line haul

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totals for deaths and injuries reported by any Class I line haul railroad during that period were 6 and 32, respectively.

As the foregoing statistics illustrate, any accident involving a placarded hazardous materials car presents a grave risk to the health and safety of persons in the immediate vicinity. A derailment of a train hauling placarded hazardous materials cars could result in a powerful explosion, the contamination of a city water supply, and the poisoning of persons along the right-of-way. Set forth below is a brief summary of the most significant rail equipment accidents involving placarded hazardous materials cars reported by the L&N during the 30-month period ending June 30, 1978. These accidents encompass virtually all areas served by the L&N, thus illustrating the breadth of the L&N's safety problems.

On February 22, 1978, near Waverly, Tennessee, an L&N freight train hauling five placarded hazardous materials cars derailed as a result of a broken wheel. Two days later, one of the involved placarded hazardous materials cars, loaded with liquefied petroleum gas, exploded and killed 16 people, seriously injured 46 people, and caused the evacuation of approximately 500 people. The force of the explosion was so great that it destroyed an entire two-block area of downtown Waverly. Subsequent investigation revealed that the broken wheel was caused by extreme heat generated either by a sticking air brake or an improperly applied hand brake. Statements by the train crew indicate that they failed to inspect the air brakes of the car that caused the derailment, which was added to the train en route, in the manner required by Federal regulations (49 CFR 232.13(d)). More important, during the Waverly accident investigation hearing conducted by the National Transportation Safety Board (NTSB), testimony revealed that the L&N manual "Special Rules Governing Train Handling, Air Brakes and Dynamic Brakes," which became effective on April 1. 1975, and was in effect at the time of the Waverly mishap, failed to mention the full air brake test that is required by Federal regulations when cars are added to a train en route.

On November 9, 1977, two of the hauling locomotives and the following 35 cars of a 128-car L&N freight train, including 17 placarded hazardous materials cars containing anhydrous ammonia, derailed on a 6°04′ curve near Pensacola, Florida. Contents of three of those cars were released into the atmosphere as a result of the derailment. The released anhydrous ammonia created a toxic gas cloud that killed two people, seriously injured 46 others, and forced the evacuation of approximately 1,500 people. This tragic accident could have been averted if the L&N had complied with its own internal track standards.

The NTSB conducted an investigation of the accident and concluded that its probable cause was the overturning of the high rail of the curve, which caused track gage to widen. NTSB further concluded that the high rail tipped because the tight gage of the track at the derailment site did not enable it to withstand the lateral forces applied by the three 6-axle locomotives on the train and by a lightly loaded long car and an empty short car directly between the locomotives and the rest of the train with heavy trailing tonnage. The two cars were placed contrary to L&N's special rules governing train handling and the Association of American Railroad's Track Train Dynamics recommendations.

The NTSB's investigation further revealed that in June 1977, the L&N's track geometry vehicle had indicated that track gage and cross level conditions in the area of the derailment did not conform to the L&N's own track standards, and that no further action was taken by the L&N to correct those conditions. The NTSB also found that since 1975, no substantial maintenance had been performed on the track in the vicinity of the derailment, that the crossties in that area had not been thorougly inspected since 1973, and that portions of track in the vicinity of the derailment were not maintained in accordance with FRA's Track Safety Standards (49 CFR Part 213).

In addition to the findings of its track geometry vehicle in June 1977, the L&N had more than adequate prior notice of serious track deficiencies in the area of the derailment. From January 1975 until the Pensacola accident, the L&N had reported to FRA 22 derailments caused by track conditions in its Mobile division (which includes Pensacola), 17 of which occurred within 50 miles of the Pensacola derailment.

Less than 1 month (October 15, 1977) prior to the Pensacola accident, referenced above, an L&N train hauling 33 placarded hazardous materials cars had derailed because of a worn wheel at a site within 6 miles of the later accident. As a result of that accident, one of those cars released its contents, forcing the evacuation of approximately 1,000 people.

On May 29, 1978, an L&N freight train hauling 38 placarded hazardous materials cars derailed near Mossy Head, Florida, because of a broken rail. As a result of the derailment, four of those cars released their contents, which necessitated the evacuation of an estimated 400 people. On August 4, 1976, an L&N freight train hauling three placarded hazardous materials cars derailed within 3 miles of the site of the May 29, 1978, derailment. This was also caused by a broken rail. As a result of the derailment, one of those cars released its contents, thereby forcing the evacuation of approximately 100 people.

On May 19, 1978, two placarded hazardous materials cars derailed on a curve in the L&N's Howell Yard in Evansville, Indiana, and released their contents. That released necessitated the evacuation of approximately 2,500 people.

On April 25, 1978, an L&N freight train hauling two placarded hazardous materials cars derailed near Bowling Green, Kentucky, because of a broken wheel. As a result of that accident, approximately 500 persons were evacuated.

On February 2, 1978, track irregularities caused the derailment of and a release of contents from, a placarded hazardous materials car in an L&N train near Castleberry, Alabama. Two people were injured and 50 were evacuated as a result of that accident.

On March 20, 1977, an L&N freight train hauling three placarded hazardous materials cars derailed near Kennesaw, Georgia. The L&N reported the cause of this accident as a "low rail." Two of those cars released their contents as a result of the derailment, which necessitated the evacuation of approximately 150 people. Approximately 6 months later (September 28, 1977), another L&N train hauling placarded hazardous materials cars derailed at approximately the same site. One of those cars released its contents as a result of the derailment, thereby forcing the evacuation of an estimated 200 people.

In the space of two days in February 1977, the L&N suffered two derailments that resulted in the release of hazardous materials and forced the evacuation of people from the derailment site. On February 18, 1977, near St. Matthews, Kentucky, an L&N train hauling one placarded hazardous materials car derailed because of a burned-off journal. The placarded hazardous materials car involved in that derailment released its contents, resulting in the evacuation of approximately 30 persons. One day prior to that derailment, an L&N train hauling six placarded hazardous materials cars derailed near Brownsville, Tennessee, because of a broken rail. Two of the cars released toxic materials, thereby necessitating the evacuation of approximately 75 people.

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railroad having annual operating revenues in excess of $10 million. Beginning in 1978, that term includes any line haul railroad having annual operating revenues of $50 million or more.

On May 11, 1976, nine people suffered injuries from inhalation of fumes generated by hazardous materials that were released as a result of an L&N derailment near Wilcox, Alabama. That accident involved the derailment of an L&N train hauling four placarded hazardous materials cars. The L&N reported the cause of this mishap as "defective equipment." The contents of two of those cars were released as a result of that accident. Approximately 4 months prior to the Wilcox accident (January 4, 1976), 1 person was injured and an estimated 275 people were evacuated as a result of a release of hazardous materials caused by the derailment of an L&N train near Barth, Florida. That accident involved an L&N train hauling eight placarded hazardous materials cars that derailed because of a track defect.

The foregoing summary of major L&N accidents involving placarded hazardous materials cars clearly demonstrates that the L&N has serious and widespread safety deficiencies throughout its system with respect to the transportation of hazardous materials, and that these deficiencies create a constant and substantial risk to the health and safety of the public. As the following statistics will prove, the L&N currently has the worst safety record in the nation with respect to the transportation by rail of hazardous materials, and there is substantial reason to believe that its record will continue to worsen until appropriate remedial action is taken. For comparison purposes, the L&N's ranking among all reporting Class I line haul railroads with respect to each statistic is included in parentheses, a rank of first being the worst in each category.

COMPARATIVE RANKING

Through the first 6 months of 1978, the L&N reported 39 rail equipment accidents (3rd highest among 33 reporting) that involved trains hauling a total of 240 placarded hazardous materials cars (6th). Those accidents caused damage to 80 such cars (1st), 12 of which released some or all of their contents as a result (4th). Those accidents also resulted in 16 fatalities (1st), approximately 48 injuries (1st), and the evacuation of approximately 3,950 people (1st). The L&N's poor safety record with respect to the transportation of hazardous materials is highlighted by the fact that, exclusive of the L&N, Class I line haul railroads reported a total of only 4 fatalities and 61 injuries from rail equipment accidents involving hazardous materials during the first 6 months of 1978.

As the statistics for the years 1976 and 1977 demonstrate, the L&N's poor safety record during 1978 is not a statistical aberration, but rather an accurate mirror of the safety deficiencies in L&N hazardous materials operations that have been present at least for the last 3 years.

In 1977, the L&N reported 51 (4th among 40 reporting) rail equipment accidents that involved trains hauling a total of 278 (4th) placarded hazardous materials cars. Those accidents damaged 110 such cars (2nd), 19 of which released some or all of their contests (1st), resulting in 3 deaths (1st) and 12 injuries (1st), and necessitating the evacuation of approximately 2,955 people (1st). Although the L&N ranked only fourth with respect to the number of rail equipment accidents involving trains hauling placarded hazardous materials cars, it ranked first in total reported equipment damages resulting from those accidents. L&N's reported damages of $6,063,224 constitute 17.4 percent of total equipment damages suffered by all Class I line haul railroads in such accidents during 1977.

Reported statistics for 1976 confirm that the L&N's safety record with respect to the transportation of hazardous materials, while consistently poor during the last 3 years, has been progressively deteriorating during that period. In 1976, the L&N reported 30 rail equipment accidents (5th among 54 reporting) that involved trains hauling a total of 118 (8th) placarded hazardous materials cars. Those accidents damaged 68 such cars (3rd), 11 of which released some or all of their contents (4th), and resulted in 11 injuries (2nd) and the evacuation of approximately 375 persons (9th). Although the L&N ranked third in the number of placarded hazardous materials cars damaged in rail equipment accidents and fourth in the number of such cards that released their contents, it ranked only seventh in the nation among all railroads with respect to the estimated total number of such cars hauled during 1976.

As the foregoing statistics demonstrate, the number of L&N accidents involving trains hauling placarded hazardous materials cars has grown since 1976, and there is every reason to believe that they will increase in the future if the L&N is permitted to continue its present operating practices without additional restrictions. Because many of the placarded hazardous materials cars hauled by the L&N move through, or within, the immediate vicinity of a number of densely populated residential areas, a catastrophe is foreseeable unless appropriate remedial action is taken.

SCOPE OF L&N HAZARDOUS MATERIALS OPERATIONS

The L&N operates over approximately 10,600 miles of track in 13 states (Alabama, Florida, Georgia, Illinois, Indiana, Kentucky, Louisiana, Mississippi, Missouri, North Carolina, Ohio, Tennessee, and Virginia). Trains operating over that track pass through, or in close proximity to, a great number of densely populated metropolitan and suburban areas. Those areas include the following cities and their immediate environs: Alabama—Mobile, Montgomery, Birmingham, Decatur, Alabama City, Gadsden; Florida—Pensacola; Georgia—Atlanta, Marietta, Dalton; Illinois—Chicago, Hoopeston, Danville; Indiana—Hammond, Terre Haute, Vincennes, Evansville, Bloomington, Bedford, Frankfurt, Indianapolis; Kentucky—Paducah, Henderson, Owensboro, Hopkinsville, Bowling Green, Louisville, Springfield, Frankfort, Lexington, Covington, Newport, Winchester; Louisiana—New Orleans; Mississippi—Gulfport, Biloxi, Pascagoula; Missouri—St. Louis; Ohio—Cincinnati; Tennessee—Memphis, Jackson, Clarksville, Nashville, Columbia, Murfreesboro, Chattanooga, Knoxville.

Large numbers of placarded hazardous materials cars are transported annually over L&N trackage passing through or in close proximity to all the above mentioned cities and towns, as well as numerous other locations within the L&N's system. In 1976, the L&N hauled an estimated 64,200 placarded hazardous materials cars, a total exceeded by only six other railroads. The total number of placarded hazardous materials cars hauled by the L&N during 1976 represented approximately 9.5 percent of the estimated total number of such cars hauled by rail in the United States during that year. In 1977, the L&N hauled an estimated 60,800 placarded hazardous materials cars, which represented approximately 8.9 percent of the estimated total number of such cars that were hauled by rail in the United States during that year. The L&N's volume and market share of such traffic was at substantially the same level during 1978.

The hazardous materials hauled by the L&N include numerous flammable liquids and solids, flammable and nonflammable compressed gases, Class A and Class B explosives, propellants, pesticides, fumigants, insecticides, oxidizers, corrosive materials, radioactive materials, and Class B poisons, including such dangerous and volatile substances as acetone, anhydrous ammonia, butane, ethylene oxide, methanol, xylene phosphorous, aluminum nitrate, calcium nitrate, carbolic acid, aniline oil, uranium hexafluoride, hydrofluoric acid, phosphoric acid, acetic acid, sodium hydroxide, liquefied petroleum gas, coal tar, sulfuric acid, acrylonitrile, petroleum asphalt, motor fuel antiknock compound, propane, vinyl chloride, butadiene, chlorine, nitric acid, hydrochloric acid, ammonium nitrate, sulfur dioxide, and hydrogen cyanide.

Release of any hazardous material creates a great degree of risk to the health and safety of all persons within the immediate area. Some of these materials are extremely toxic, and a number of the more widely transported hazardous materials, such as anhydrous ammonia and sulfuric acid, can severely burn and kill any person coming into contact with them. For example, the November 9, 1977, Pensacola derailment, referenced earlier, led to the release of anhydrous ammonia that formed a toxic gas cloud, killing two people and serious injuring 46 others.

FRA ENFORCEMENT EFFORTS

Extensive FRA inspections over the last three years have uncovered serious safety deficiencies in all phases of L&N freight operations that have led directly to numerous derailment of L&N trains. The enhanced risk of a derailment created by those deficiencies, coupled with the substantial volume of placarded hazardous materials cars annually transported by the L&N, combine to create a substantial and constant risk to the public of serious injury and death.

During the first 6 months of 1978, a total of 64 FRA inspectors conducted inspections of all phases of L&N operations to determine the extent of L&N's compliance with the various Federal rail safety status enforced by FRA. Those inspections involved an estimated 6,467 inspector-hours. In 1977, 40 FRA inspectors spent an estimated 6,223 inspector-hours inspecting the L&N, and during 1976, 41 FRA inspectors devoted an estimated 7,598 inspector-hours to such inspections. On the basis of the results of both those extensive past inspections and more recent inspections, FRA is convinced that the safety deficiencies that are discussed below continue to exist throughout the L&N's system.

One of the major safety deficiencies in L&N freight operations lies in its failure to comply with minimum Federal standards imposed by the Track Safety Standards (track standards) (49 CFR Part 213). Although the L&N is legally required to inspect for and repair all track conditions that are not in compliance with the track standards and has, in fact, been assessed significant civil penalties for failure to comply with those standards, there is abundant evidence that the L&N is not in compliance with either the track standards or, in some cases, its own track maintenance rules, at numerous locations within its system. That lack of concern for safety has had several tragic consequences, such as the November 9, 1977, Pensacola accident, discussed earlier.

Over the past several years, FRA has conducted numerous inspections of L&N track to determine the extent of its compliance with the track standards. During the first 6 months of 1978, 91 track inspections covering 854 miles of L&N track were conducted by FRA track inspectors. Those inspections disclosed 1,288 instances of noncompliance with the FRA track standards. Also, during February 1978, the FRA track geometry cars were used to inspect 108 miles of L&N track between Louisville and DeCoursey, Kentucky. Forty-five miles of that track were found to be in noncompliance with the requirements imposed by the track standards for the posted track class,[3] and 17 of these miles did not meet the minimal requirements imposed for Class I track, over which freight train speed is restricted to not more than 10 miles per hour.

In 1977, FRA track inspectors conducted 145 inspections covering 2,286 miles of L&N track. Those inspections uncovered 1,527 instances of noncompliance with the track standards. During July 1977, FRA track geometry cars were used to inspect 560 miles of L&N track between Cincinnati, Ohio, and Atlanta, Georgia. Of that total, 204 miles were found to be in noncompliance with the requirements imposed by the track standards for the posted track class. During 1976, FRA track inspectors conducted 203 track inspections covering 2,808 miles of L&N track. Those inspections disclosed 1,971 instances of noncompliance with the track standards.

As the foregoing statistics demonstrate, virtually every FRA inspection of L&N track during the past several years has disclosed numerous instances of noncompliance with the track standards, many of which were capable of causing a derailment. This is especially significant from a safety standpoint because the track standards prescribe only minimum safety requirements for track. On the basis of the results of both past and recent track inspections at a variety of locations within the L&N's system and the rapidly increasing number of rail equipment accidents reported to FRA by the L&N as caused by track conditions, FRA is convinced that track conditions at numerous locations within the L&N's system are currently deficient from the standpoint of safety. To cite a recent example, beginning on January 9, 1979, FRA track geometry cars were used to inspect 309 miles of L&N track between DeCoursey, Kentucky and Atlanta, Georgia. That inspection disclosed 175 miles of track not in compliance with the posted track class and 73 miles of track that were not in compliance with Class I track requirements. Although responsible L&N officials received immediate notification of the defects detected during that inspection, a return FRA inspection conducted 6 days later of portions of the track inspected earlier indicated that the L&N had not taken any action to correct certain of the most serious defects, such as wide gage, discovered during the earlier inspection.

As a result of its inadequate track inspection and repair program, over the past three years the L&N has suffered an increasing number of derailments caused by defective track conditions. In 1976, the L&N reported to FRA 317 derailments that were caused by track conditions. Four Class I line haul railroads reported more such derailments (among 66 reporting) during 1976. It should be noted that all four (Consolidated Rail Corporation (Conrail), Illinois Central Gulf (ICG), Chicago and North Western (CNW), and the Chicago, Rock Island and Pacific) had substantial deferred track maintenance because of recent histories of poor or marginal earnings, and all four operated over more track than the L&N. For 1977, the L&N reported to FRA 322 derailments caused by track conditions, a figure exceeded only by three (Conrail, ICG, CNW) other Class I line haul railroads (among 58 reporting). On the basis of data reports for the first 6 months of 1978, FRA projects that the L&N reported 350 derailments caused by track conditions during 1978, for an increase of 9 percent over 1977.

In addition to its poor safety record with respect to its track, the L&N has widespread safety deficiencies in the inspection and repair of equipment. This is reflected in the substantial number of rail equipment accidents that have been reported annually to FRA by the L&N, including the several discussed earlier which resulted in the release of hazardous materials.

On the basis of reported data for the first 6 months of 1978, FRA projects that for the entire year, the L&N reported 150 derailments caused by equipment. During 1977, the L&N reported 149 derailments caused by equipment, a figure that was exceeded only by 2 of the 58 Class I line haul railroads reporting (Conrail and Burlington Northern (BN)), and each of them hauled considerably more traffic than the L&N during that period. In 1976, the L&N's reported total of 141 derailments caused by equipment ranked fourth, behind Conrail, BN, and the Southern Pacific, each of which hauled substantially more cars than the L&N during that year.

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[3] The track standards recognize six separate track classes (the highest being Class 6, over which maximum operating speed for freight trains is 110 miles per hour), and prescribe progressively more stringent safety requirements for each such class (49 CFR 213.9).

Statistics for the 30-month period ending June 30, 1978, with respect to rail equipment accidents reported by the L&N from all causes (human, track, equipment and miscellaneous) highlight the safety deficiencies that permeate L&N freight operations.

On the basis of reported data for the first 6 months of 1978, FRA projects that for the entire year, the L&N reported a total of 826 rail equipment acidents from all causes. The projected number of accidents represents an increase of 13 percent over the L&N's reported results in that category for 1977, when it ranked behind only two much larger carriers, Conrail and BN, among 58 reporting Class I line haul railroads. For 1977, the L&N reported 730 rail equipment accidents from all causes, an average of 25.8 accidents per million train-miles. For comparison purposes, the average accident rate per million train-miles for all Class I line haul railroads in 1977 was 13.6. The L&N's accidents in 1977 resulted in total reported damages of $25,006,153, exceeding by $3.3 million the next highest total reported by any Class I line haul railroad.

During 1976, the L&N reported a total of 700 rail equipment accidents from all causes, an average of 25.3 accidents per million train-miles. Among all Class I line haul railroads, the average accident rate per million train-miles was 12.9. Only three Class I line haul railroads (Conrail, BN, CNW), among 66 reporting, reported more such accidents during 1976.

The L&N's safety record demonstrates an apparent lack of dedication to railroad safety on the part of L&N management. The resultant poor safety record has been a matter of considerable concern to FRA, but all actions taken to date to foster improvement in the safety of L&N operations have proved fruitless.

Following its customary practice, FRA first attempted to achieve necessary safety improvements in L&N operations through informal meeting, correspondence, and the assessment and collection of civil penalties for those safety deficiencies that constituted violations of the minimum Federal safety standards imposed by Federal statute and regulation. During fiscal years 1976 and 1977, for example, the FRA transmitted to the L&N 442 alleged safety claims on which penalties of $301,450 were claimed. That course of action, however, did not result in any noticeable improvement in the L&N's safety record. Therefore, after a review of L&N's record and careful consideration of the matter, FRA decided that stonger action was required.

During the winter and spring of 1977-1978, FRA undertook an intesive program of safety inspections that was designed to ascertain the extent of L&N's compliance with minimum Federal safety standards and to advise the L&N of the safety deficiencies identified. Also, meetings were held between L&N officials and FRA representatives to discuss the L&N's safety problems and the necessary corrective action required. At one of those meetings, May 25, 1978, the L&N admitted that it was not in compliance with all FRA regulations and that its methods to ensure both the safety of operations and compliance with those regulations were wanting. At that meeting, the L&N presented a plan outlining the steps taken, and to be taken, in an effort to correct its safety deficiencies.

FRA hoped that its intensive inspection program, coupled with promised remedial action by the L&N, and a substantial increase in the civil penalties assessed and collected by FRA for Federal safety violations would lead to prompt and significant improvement in L&N's safety record. During fiscal year 1978, FRA settled a number of outstanding safety claims against the L&N for the total of $513,100 ($96,000 of which consisted of final assessments for 45 violations of Federal hazardous materials regulations), and transmitted to the L&N 860 alleged safety claims on which penalties of $781,600 were claimed. Despite these measures, L&N's safety record has not improved. Because of the failure of these measures to achieve their objective, FRA has determined that more drastic, action, in the form of this Emergency Order, is necessary. In FRA's judgment, continued transportation of placarded hazardous materials cars over L&N owned or leased track without certain additional restrictions to ensure the safety of those operations constitutes an unsafe condition and creates an emergency situation involving a hazard of death or injury to the general public.

SUMMARY

As the previously cited statistics and hazardous materials train accident summaries demonstrate, the L&N's poor safety record is not due to any single factor, but results, rather, from a serious breakdown in all phases of its operations that affect safety. Severe safety deficiencies in the L&N's track system, equipment, and operating practices have all contributed to its poor safety record. Because of the breadth and complexity of the L&N's safety problems, the FRA questions whether the L&N is capable of expeditiously rectifying those problems to the point where its hazardous materials operations would not constitute an unsafe condition involving a hazard of death or injury to the public. Consequently, this Order imposes upon the L&N certain conditions designed to minimize the risk to the public from continuation of those operations, pending the L&N's institution of appropriate remedial action. In its determination of the restrictions to be placed on L&N hazardous materials operations, FRA was especially concerned with devising restrictions that would minimize the risk of derailments on track segments with curves and large variations in grade, because large portions of the L&N's system over which hazardous materials are transported have those physical characteristics.

DISCUSSION OF RESTRICTIONS

By analyzing the factual circumstances involved in previous train accidents and through applied research, FRA has identified a number of factors that have led, or contributed, to train derailments in the past, and which are inadequately dealth with by the L&N. Those factors include defective track, placement of empty TOFC (trailer on flatcar)/COFC (container on flatcar) flatcars and long cars (those with a length in excess of 70 feet) behind the hauling locomotives or in the front of a train with heavy trailing tonnage, and the operation of certain six-axel locomotives around curves. The restrictions set forth in this Order are designed to minimize the adverse impact of these factors on trains transporting placarded hazardous materials cars over L&N owned or leased track.

The FRA has also focused on restrictions that would minimize the possibility of a release of hazardous materials in the event of a drailment of a train hauling one or more placarded hazardous materials cars. Because statistical evidence (discussed below) indicates that the speed at which a train derails is often the most critical factor in determining whether a placarded hazardous materials car will release its contents, FRA is convinced that the public safety requires this Order to include a speed restriction on all trains hauling such cars over L&N owned or leased track.

Defective Track. As documented above, during the past 3 years the L&N has ranked among the top four railroads in the nation with respect to total reported derailments caused by track conditions. Defective track conditions were reported by the L&N as the cause of a substantial number of the train derailments involving placarded hazardous materials cars summarized earlier, including those occurring near High Cliff (December 13, 1978), Applachian (November 27 and 30, 1978), Madisonville (October 18, 1978), and Brownsville, (February 17, 1977), Tennessee, Pensacola (November 9, 1977) and Mossy Head (May 29, 1978, August 4, 1976), Florida, Castleberry, Alabama (February 2, 1978), and Kennesaw, Georgia (March 20, 1977). Those accidents collectively resulted in 2 deaths, 52 injuries and the evacuation of 6,900 people.

Although the L&N is legally required to inspect its track regularly for deviations from the track standards and to immediately initiate remedial action to correct deviations discovered during such inspections (49 CFR 213.233), the great number of L&N train accidents caused by track conditions over the past 3 years strongly suggests that the L&N's track inspection and repair program has been woefully inadequate. Consequently, FRA is convinced that extensive track inspections in addition to those now required by Federal regulations are necessary to remedy the results of the L&N's inadequate track inspection and repair program. The increased track inspections imposed by this Order are designed to accomplish two objectives. First, to ensure that the L&N discovers and corrects defects presently existing in its track. Second, to ensure that the L&N detects and repairs future track defects (or conditions that may develop over time into defects) before they cause accidents. In order to redress the former problem this Order requires the L&N, as soon as practicable, to inspect on foot all of its owned or leased track over which placarded hazardous materials cars are transported for compliance with the track standards, and to immediately institute remedial action with respect to any deviations from the track standards that are discovered during those inspections. This Order also requires the L&N to double the frequency of all track inspections it is currently required to perform under 49 CFR Part 213 with respect to all L&N owned or leased track over which placarded hazardous materials cars are transported.

Car Placement. Another factor that increases derailment risk is the placement of empty flatcars and long cars at the front of a train, particularly where such cars are placed directly behind the locomotives and next to shorter cars (as in the case of the November 9, 1977 Pensacola accident, referenced earlier), or in the front portion of the train with most of the train tonnage behind them (as in the case of an L&N derailment on January 1, 1978 near Campbellsville, Kentucky). In the Campbellsville derailment, the placement at the front of the train of empty long cars next to empty cars that were substantially shorter was deemed a contributing cause of the train's derailment on a curve. Significant lateral forces are generated (particularly during train braking) when such long empty cars, placed in the front of a train next to shorter cars, travel on an ascending or descending grade or through a curve. Those lateral forces are generated as a result of the cars being pulled by the hauling locomotives and restrained by the mass of the trailing cars, and tend to produce rail tipping and displacement or to cause the wheel flange to climb the high rail of the curve, all of which could cause a derailment. Because those forces can be significantly reduced by placing such cars further to the back of the train, this Order requires placement of such cars in the last half of trains transporting placarded hazardous materials cars over L&N owned or leased track.

Train Speed. In its analysis of past accidents involving trains transporting placarded hazardous materials cars, FRA has developed statistical evidence demonstrating that the speed at which such a train derails is often the most critical factor influencing whether one or more such cars will release their contents. The L&N's recent accident history is consistent with this finding. For example, during 1977, the L&N reported to FRA 38 accidents involving trains transporting placarded hazardous materials cars that occurred at speeds estimated by the L&N to be less than 30 miles per hour. Those accidents resulted in the release of hazardous materials from eight cars. During the same period, the L&N reported 14 accidents involving trains transporting placarded hazardous materials cars that occurred at speeds greater than 30 miles per hour. Those accidents resulted in releases of hazardous materials from 11 cars. For the first 9 months of 1978, the L&N reported to FRA 45 accidents involving trains hauling placarded hazardous materials cars that occurred at speeds less than 30 miles per hour. Those accidents resulted in releases from four cars. During that same period, the L&N reported nine accidents involving placarded hazardous materials cars that occurred at speeds greater than 30 miles per hour. Those accidents resulted in releases from nine cars. A number of the most serious L&N hazardous materials accidents, referenced earlier, occurred at speeds estimated to be greater than 30 miles per hour, including those at Wilcox, Alabama (May 11, 1976), Pensacola, Florida (November 9, 1977), Castleberry, Alabama (February 2, 1978), and Waverly, Tennessee (February 22, 1978), which collectively resulted in 103 injuries, 18 deaths, and the evacuation of approximately 2,050 people.

Placement of a limitation on the speed of trains transporting placarded hazardous materials cars is also important because it minimizes the risk created by certain other factors that could cause a derailment, such as train action and the operation of certain six-axle locomotives on curved track.

Train action, the forces generated by and among units of rolling stock in a moving train, is one of the major causes of derailments.[4] The magnitude of that force will increase directly with a number of factors, including the number of cars, tonnage and speed of the train involved. Consequently, the speed restriction imposed by this Order will reduce the magnitude of train action in many L&N trains transporting placarded hazardous materials cars, thereby lessening the derailment risk created by that factor.

The speed limitation imposed by this Order should also reduce the derailment risk, discussed below, created by the operation of certain types of six-axle locomotives at higher speeds around curves. As noted above, there are a substantial number of curves on many portions of the L&N's track system over which placarded hazardous materials cars are transported. For every curve, there is a particular speed, termed balance or equilibrium speed, which permits a train moving around that curve to maintain equal balance between the high and low rail of the curve. When balance speed on a curve is exceeded by certain types of six-axle locomotives, those locomotives generate lateral forces substantially in excess of those generated by four-axle locomotives moving around that curve at the same speed. When lateral forces reach a certain level for a fixed duration of time, a derailment may occur because of rail tipping and displacement, or by reason of a wheel climbing the high rail of the curve.[5] Because the rate at which the lateral forces generated on curves by certain six-axle locomotives greatly increases when the speed of a train exceeds the balance speed of the curve, the speed limitation contained in this Order should materially reduce the derailment risk created by the movement of such locomotives around certain curves.

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[4] The L&N has identified train action as the primary cause of three derailments reported to FRA within the last 2 years that involved trains transporting placarded hazardous materials cars and resulted in either the release of hazardous materials or the evacuation of private citizens from their homes. Those accidents occurred at Lebanon Junction, Kentucky (January 18, 1977), Acworth, Georgia, (December 24, 1977), and Bowling Green, Kentucky, (April 25, 1978).

[5] During the past 15 months, the L&N has reported a number of derailments to FRA involving trains being hauled by one or more six-axle locomoties that occurred as the trains moved around a curve in which the primary cause was identified as rail tipping and displacement or a wheel climbing the high rail of the curve. Those derailments include accidents occuring at Hanson (January 7, 1979), Simpsonville (January 6, 1979), and Rockhold (March 1, 1978), Kentucky, Cartersville, Georgia (March 13, 1978), Ellettsville, Indiana (January 15, 1978), and Pensacola, Florida (November 9, 1977).

Therefore, pursuant to authority contained in section 203 of the Federal Railroad Safety Act of 1970 (45 U.S.C. 432), delegated to me by the Secretary of Transportation (49 CFR 1.49(n)), I hereby order that, effective 12:01 p.m., February 9, 1979:

1. No train containing a placarded hazardous materials car shall be operated at speeds greater than thirty (30) miles per hour over track owned or leased by the L&N.

2. The controlling locomotive unit in each train transporting a placarded hazardous materials car over track owned or leased by the L&N shall be equipped with an operational (accurate to within 5 miles per hour) speed indicator: *Provided, however,* That this requirement shall not become effective until 12:01 a.m., of the tenth (10th) calendar day following the effective date of this Order.

3. The L&N shall double the frequency of all track inspections that it is presently required to perform under 49 CFR Part 213 with respect to all L&N owned or leased track over which placarded hazardous materials cars are transported. For example, all inspections that are now required to be performed weekly shall be performed twice weekly, twice weekly inspections shall be performed four times weekly, and so forth.

4. As soon as practicable, the L&N shall inspect on foot all track that it is required to inspect under 49 CFR Part 213 over which placarded hazardous materials cars are transported for compliance with the requirements of that part, and shall immediately institute remedial action with respect to each deviation from the requirements of 49 CFR Part 213 discovered during such inspection. On the thirtieth (30th) day following the effective date of this Order, and every thirty (30) days thereafter until the inspection required by this paragraph is completed, the Vice President-Operations of the L&N shall transmit to FRA's Associate Administrator for Safety a report stating the status of the L&N's compliance with the requirements of this paragraph.

5. No empty TOFC (trailer on flatcar)/COFC (container on flatcar) flatcar and no empty railroad freight car with a length over the pulling face of its coupler in excess of seventy (70) feet shall be placed in the first half of a train transporting placarded hazardous materials cars that is operated over track owned or leased by the L&N. For the purposes of this paragraph, the term empty TOFC/COFC flatcar shall be deemed to include any such car transporting one or more empty trailers or containers.

6. The L&N shall conduct an investigation of each accident/incident (as that term is defined in 49 CFR 225.5(b)) that occurs on track that it owns or leases and involves a train transporting a placarded hazardous materials car and shall forward to FRA's Associate Administrator for Safety, within ten (10) calendar days after such accident/incident, a detailed analysis of the factual circumstances and probable cause(s) of that accident/incident. That detailed analysis shall be signed by each of the L&N's officials investigating the accident/incident and shall include a signed statement from each member of the operating crew involved regarding the factual circumstances of that accident.

7. The Vice President-Operations of the L&N shall prepare and transmit to the Chief Counsel of FRA, as soon as practicable, a written report, signed by the President of the L&N, detailing the remedial actions taken, and to be taken, by the L&N to improve the safety of its train operations involving placarded hazardous materials cars.

8. This Order shall remain in effect until FRA finds that the L&N has taken reasonable steps to improve the safety of its train operations involving placarded hazardous materials cars and an authorized representative of the Federal Railroad Administrator informs the President of the L&N that the Order is withdrawn. Dependent upon the L&N's progress in rectifying its safety deficiencies, FRA will consider gradual removal of the conditions set forth in this Order.

The provisions of this Order shall not apply to any train transporting a placarded hazardous materials car over track owned or leased by the L&N that started in transit prior to the effective date of this Order and that is in transit to its final terminal over such track upon the effective date of this Order.

For the purposes of this Order, the phrase "track owned by the L&N" shall be deemed to include all track as to which the L&N possesses legal or equitable title.

A civil penalty of $2,500 will be assessed for each violation of this Order (45 U.S.C. 438). The FRA may also petition the appropriate United States district court for such equitable and other relief as it deems necessary or advisable to safeguard the health and safety of the public.

This Order does not authorize the L&N or any other railroad to operate trains not containing placarded hazardous materials cars in a manner or over track that is not in compliance with the Track Safety Standards (49 CFR Part 213). Any such operation may subject each such railroad to the assessment of the penalties prescribed by the Federal Railroad Safety Act of 1970 (45 U.S.C. 438).

Opportunity for formal review of this Order will be provided in accordance with sections 203 of the Federal Railroad Safety Act of 1970 (45 U.S.C. 432) and 554 of title 5 of the United States Code. Petition for such review must be submitted in writing to the Office of Chief Counsel, Federal Railroad Administration, Washington, D.C. 20590 in accordance with 49 CFR 211.47.

Issued in Washington, D.C., on February 7, 1979.

JOHN M. SULLIVAN,
Administrator.

[FR Doc. 79-4631 Filed 2-8-79; 8:45 am]

[4810-22-M]

DEPARTMENT OF THE TREASURY

Office of the Secretary

CERTAIN STEEL I-BEAMS FROM BELGIUM

Antidumping Proceeding Notice

AGENCY: U.S. Treasury Department.

ACTION: Initiation of Antidumping Investigation.

SUMMARY: This notice is to advise the public that a petition in proper form has been received and an antidumping investigation is being initiated for the purpose of determining whether imports of certain steel I-beams from Belgium are being, or are likely to be, sold at less than fair value within the meaning of the Antidumping Act of 1921, as amended. Sales at less than fair value generally occur when the prices of the merchandise sold for exportation to the United States are less than the prices in the home market or to countries other than the United States, or less than the constructed value.

EFFECTIVE DATE: February 9, 1979.

FOR FURTHER INFORMATION CONTACT:

John R. Kugelman, Operations Officer, U.S. Customs Service, Office of Operations, Duty Assessment Division, Technical Branch, 1301 Constitution Avenue, N.W., Washington, D.C. 20229 (202) 566-5492.

SUPPLEMENTARY INFORMATION: On January 2, 1979, information was received in proper form pursuant to §§ 153.26 and 153.27, Customs Regulations (19 CFR 153.26, 153.27), from counsel on behalf of Connors Steel Company alleging that certain steel I-beams from Belgium are being, or are likely to be, sold at less than fair value within the meaning of the Antidumping Act, 1921, as amended (19 U.S.C.

160 *et seq.*). Since there appear to have been no sales of such or similar merchandise in the home market, the petition alleges margins of dumping, based on a comparison with offers to third countries, ranging from 23 to 49 percent.

For purposes of this notice, the term "certain steel I-beams" means hot rolled, steel I-beams, with symmetrical flanges or with one or more flanges offset, less than six inches in height and weighing not over 4½ pounds per linear foot, provided for under item number 609.80 of the Tariff Schedules of the United States Annotated (TSUSA).

There is evidence on record concerning injury or likelihood of injury to the U.S. industry from the alleged less-than-fair-value imports. The petitioner's evidence indicates dramatically increased imports, a substantial increase in imports as a percent of domestic consumption, lost sales to Belgian imports, and declines in domestic employment and in the petitioner's profitability. Imports from Belgium increased by approximately 300 percent from 1977 to 1978. Belgian imports represented about 6 percent of domestic consumption in 1977, increasing to over 16 percent in 1978. Further, it appears that elimination of the alleged margins of dumping would result in elimination of margins by which petitioner is being undersold by Belgian imports.

Having conducted a summary investigation as required by § 153.29 of the Customs Regulations (19 CFR 153.29) and having determined as a result thereof that there are grounds for so doing, the United States Customs Service is instituting an inquiry to verify the information submitted and to obtain the facts necessary to enable the Secretary of the Treasury to reach a determination as to the fact or likelihood of sales at less than fair value.

This notice is published pursuant to § 153.30 of the Customs Regulations (19 CFR 153.30).

ROBERT H. MUNDHEIM,
General Counsel of the Treasury.

FEBRUARY 5, 1979.

[FR Doc. 79-4473 Filed 2-8-79; 8:45 am]

[4810-22-M]

STAINLESS STEEL ROUND WIRE FROM JAPAN

Antidumping; Extension of Investigatory Period

AGENCY: United States Treasury Department.

ACTION: Extension of Antidumping Investigatory Period.

SUMMARY: This notice is to advise the public that the Secretary of the Treasury has determined that a tentative determination as to whether sales at less than fair value of stainless steel round wire from Japan have occurred cannot reasonably be made in 6 months. The tentative determination will be made in not longer than 9 months from the date of the initiation of the investigation.

Sales at less than fair value generally occur when the price of merchandise sold for exportation to the United States is less than the price of such or similar merchandise sold in the home market at prices at or above the cost of production.

EFFECTIVE DATE: February 9, 1979.

FOR FURTHER INFORMATION CONTACT:

Mr. Stephen Nyschot, U.S. Customs Service, Office of Operations, Duty Assessment Division, Technical Branch, 1301 Constitution Avenue, N.W., Washington, D.C. 20229, 202-566-5492.

SUPPLEMENTARY INFORMATION: On July 14, 1978, information was received in proper form pursuant to §§ 153.26 and 153.27, Customs Regulations (19 CFR 153.26 and 153.27) from counsel acting on behalf of a number of American manufacturers, alleging that stainless steel round wire from Japan is being, or is likely to be, sold at less than fair value within the meaning of the Antidumping Act, 1921, as amended (19 U.S.C. 160 *et seq.*) (hereinafter referred to as "the Act"). On the basis of this information, an "Antidumping Proceeding Notice" was published in the FEDERAL REGISTER on July 28, 1978 (43 FR 32914).

For purposes of this notice, the term "stainless steel round wire" means stainless steel wire as defined and provided for in item 609.45, Tariff Schedules of the United States.

Pursuant to section 201(b)(2) of the Act (19 U.S.C. 160(b)(2)), notice is hereby given that the Secretary concludes that the determination provided for in section 201(b)(1) of the Act (19 U.S.C. 160(b)(1)) cannot reasonably be made within 6 months. The determination under section 201(b)(1) of the Act (19 U.S.C. 160(b)(1)) will, therefore, be made within no more than 9 months.

This determination is based upon the need to collect and further analyze information pertaining to the cost of production of this merchandise, and to further analyze price information pertaining to numerous sizes and specifications of this merchandise sold to the United States and in the Japanese home market.

This notice is published pursuant to section 201(b)(2) of the Act (19 U.S.C. 160(b)(2)).

ROBERT H. MUNDHEIM,
General Counsel of the Treasury.

FEBRUARY 5, 1979.

[FR Doc. 79-4474 Filed 2-8-79; 8:45 am]

[7035-01-M]

INTERSTATE COMMERCE COMMISSION

[Ex Parte No. 357]

INCREASED FREIGHT RATES AND CHARGES NATIONWIDE—8 PERCENT

1-Percent Rate Increase Request Filed January 24, 1979

FEBRUARY 1, 1979.

The nation's railroads have filed a tariff supplement proposing to increase the rates on certain low rated commoditied by 1 percent, effective February 25, 1979.[1] The railroads were authorized to file this increase by the Commission's decision in Ex Parte No. 357, served December 11, 1978. In that decision the Commission stated, in part, as follows:

> We recognize that the exceptions and holddowns ordered . . . [wheat and barley in Western territory; certain coal rates; recyclable commodities; plastic materials and heavy machinery] could have an adverse effect on the carriers, particularly in view of the one percent reduction proposed by the carriers to bring the increase into conformity with the anti-inflationary guidelines. The amendment to the tariff has been authorized in this decision. However, in view of the carriers' demonstrated needs, we hereby authorize respondent railroads to file an additional supplement on statutory notice proposing additional changes to offset the holddowns here imposed. In no instance shall the increase exceed the carriers' original proposal or shall further increases be proposed on commodities already moving at revenues substantially in excess of costs as disclosed by Schedule C filed in this proceeding by the carriers. On the contrary, we encourage the carriers to increase non-compensatory or marginally compensatory commodities. A justification statement shall be filed with any such supplement setting forth the revenue impact of the holddowns nationwide and by territories as well as the anticipated revenue yield, nationwide and by territory, of the proposed increases. While protests may be filed in connection with any new filing, it is our intention to permit the carriers to obtain additional revenues so long as the increases are equitably apportioned and follow the general guidelines above.

It is ordered:

Verified complaints, if any, contesting the lawfulness of the proposed 1-

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[1] A copy of the proposal and verified statements submitted in support may be obtained from Charles C. Rettberg, Jr., 527 American Railroads Building, 1920 "L" Street, N.W., Washington, D.C. 20036.

percent increase are due on or before February 13, 1979. The original and 20 copies, if possible, shall be addressed to the Secretary, and sent to the Office of Proceedings, Room 5356, Interstate Commerce Commission, Washington, D.C. 20423. All documents filed with the Commission relating to this matter shall contain the following notation on the envelope: Ex Parte No. 357.

One copy of each complaint, 20 copies if possible, shall be served upon the representative of railroads, Charles C. Rettberg, Jr., 527 American Railroads Building, 1920 "L" Street, N.W., Washington, D.C. 20036.

On or before February 20, 1979, the railroads may file replies in accordance with the procedure set forth in the November 6, 1978 decision (Authority to File Master Tariff) entered in this proceeding.

Notice of the railroad proposal to increase certain commodities by 1 percent will be given by sending a copy of this decision to each party of record, to the Governor and public utility regulatory body of each State, the Environmental Protection Agency, and by depositing a copy in the Office of the Secretary of the Commission at Washington, D.C., and by the filing with the Director, Office of the Federal Register for publication in the Federal Register.

By the Commission. Chairman O'Neal, Vice Chairman Brown, Commissioners Stafford, Gresham, Clapp, and Christian.

H. G. Homme, Jr.,
Secretary.

[FR Doc. 79-4495 Filed 2-8-79; 8:45 am]

[7035-01-M]

FOURTH SECTION APPLICATIONS FOR RELIEF

February 6, 1979.

These applications for long-and-short-haul relief have been filed with the I.C.C.

Protests are due at the I.C.C. on or before February 26, 1979.

FSA No. 43660, Southwestern Freight Bureau, Agent's No. B-803, annual volume rates on caprolactam, from Freeport, Tex., to Enka, N.C. and Lowland, Tenn., in Supp. 11 to its Tariff 11-J, ICC 5348 (effective March 1, 1979, this tariff designation is changed to ICC SWFB 4615). Rates to become effective February 28, 1979. Grounds for relief—market competition.

FSA No. 43661, Sea-Land Service, Inc., No. 103, intermodal rates on general commodities in containers, between rail carriers' terminal at Oakland, Calif., on the one hand, and ports in Central America and the Caribbean, on the other, via Newark, NJ in its Tariff No. 277, I.C.C. No. 114 and seven other tariffs, to become effective February 28, 1979. Grounds for relief—water and rail—water competition.

By the Commission.

H.G. Homme, Jr.,
Secretary.

[FR Doc. 79-4496 Filed 2-8-79; 8:45 am]

[7035-01-M]

[Notice No. 21]

MOTOR CARRIER TEMPORARY AUTHORITY APPLICATIONS

February 5, 1979.

The following are notices of filing of applications for temporary authority under Section 210a(a) of the Interstate Commerce Act provided for under the provisions of 49 CFR 1131.3. These rules provide that an original and six (6) copies of protests to an application may be filed with the field official named in the Federal Register publication no later than the 15th calendar day after the date the notice of the filing of the application is published in the Federal Register. One copy of the protest must be served on the applicant, or its authorized representative, if any, and the protestant must certify that such service has been made. The protest must identify the operating authority upon which it is predicated, specifying the "MC" docket and "Sub" number and quoting the particular portion of authority upon which it relies. Also, the protestant shall specify the service it can and will provide and the amount and type of equipment it will make available for use in connection with the service contemplated by the TA application. The weight accorded a protest shall be governed by the completeness and pertinence of the protestant's information.

Except as otherwise specifically noted, each applicant states that there will be no significant effect on the quality of the human environment resulting from approval of its application.

A copy of the application is on file, and can be examined at the office of the Secretary, Interstate Commerce Commission, Washington, D.C., and also in the ICC Field Office to which protests are to be transmitted.

MOTOR CARRIERS OF PROPERTY

MC 59680 (Sub-219TA), Republication, filed October 10, 1978. Applicant: STRICKLAND TRANSPORTATION CO., INC., 11353 Reed Hartman Highway, Cincinnati, OH 45241. Representative: Edward G. Bazelon, 39 South LaSalle Street, Chicago, IL 60603 and Milton H. Bortz (same address as applicant). By decision of the Motor Carrier Board dated December 18, 1978, as corrected, applicant was granted temporary authority to operate as a common carrier, by motor vehicle, over regular routes, transporting: General commodities (except household goods as defined by the Commission, commodities in bulk, commodities requiring special equipment, articles of unusual value and classes A and B explosives), (A) between Baton Rouge, LA and its commercial zone, and Monroe, LA and its commercial zone, serving no intermediate points, from Baton Rouge over U.S. Hwy. 61 to Natchez, MS, thence over U.S. Hwy. 84 to Ferriday, LA, thence over U.S. Hwy. 65 to Clayton, LA, thence over LA Hwy. 15 to monroe, and return over the same route, and (B) between Baton Rouge, LA, and its commercial zone, and Junction U.S. Hwys. 71 and 190, serving no intermediate points and serving the junction of U.S. Hwys. 71 and 190 for purposes of joinder only, from Baton Rouge over U.S. Hwy. 190 to junction U.S. Hwy. 71, and return over the same route. The decision authorizes applicant to tack this authority with its existing regular route authority and to interline. The publication of November 21, 1978, failed to show that tacking and interlining were requested. Petitions for reconsideration may be filed on or before March 1, 1979.

H. G. Homme, Jr.,
Secretary.

[FR Doc. 79-4497 Filed 2-8-79; 8:45 am]

sunshine act meetings

This section of the FEDERAL REGISTER contains notices of meetings published under the "Government in the Sunshine Act" (Pub. L. 94-409) 5 U.S.C. 552b(e)(3)

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[6320-01-M]

1

[M-193 Amdt. 2, February 6, 1979]

CIVIL AERONAUTICS BOARD

Addition of item to the February 7, 1979 Agenda.

TIME AND DATE: 10 a.m., February 7, 1979.

PLACE: Room 1027, 1825 Connecticut Avenue, N.W., Washington, D.C. 20428.

SUBJECT:

17a. Dockets 33346, 33347, and 34316; Northwest's application and motion for a show cause order to make its authority to serve Jamestown, N.D., permissive; Northwest's application and notice of intent to suspend service at Jamestown; Jamestown's petition for the establishment of essential air transportation level; Jamestown's emergency petition asking the Board to order Northwest to immediately provide essential air transportation. (Memo #8483, BPDA, OCCR, OGC).

STATUS: Open.

PERSON TO CONTACT:

Phyllis T. Kaylor, the Secretary, (202) 673-5068.

SUPPLEMENTARY INFORMATION: Early action is warranted to find a replacement carrier and that the item should not be delayed for consideration until the next meeting, February 15, 1979. Accordingly, the following Members have voted that agency business requires the addition of Item 17a to the February 7, 1979 agenda and that no earlier announcement of this addition was possible:

Chairman, Marvin S. Cohen
Member, Richard J. O'Melia
Member, Elizabeth E. Bailey
Member, Gloria Schaffer

[S-278-79 Filed 2-7-79; 3:05 p.m.]

[6320-01-M]

2

[M-193 Amdt. 3; February 6, 1979]

CIVIL AERONAUTICS BOARD

Deletion of item from the February 7, 1979 meeting agenda.

TIME AND DATE: 10 a.m., February 7, 1979.

PLACE: Room 1027, 1825 Connecticut Avenue, NW., Washington, D.C. 20428.

SUBJECT:

4. Amendment of Part 302 to set uniform 30-day answer period. (Memo No. 8456, OGC).

STATUS: Open.

PERSON TO CONTACT:

Phyllis T. Kaylor, the Secretary, (202) 673-5068.

SUPPLEMENTARY INFORMATION: Item 4, draft notice of proposed rulemaking to amend Part 302 to set uniform 30-day answer period, requires further consultation among the staff to resolve a problem of the Bureau of Pricing and Domestic Aviation. Accordingly, agency business requires the deletion of Item 4 from the agenda and no earlier announcement of this change was possible:

Chairman, Marvin S. Cohen
Member, Richard J. O'Melia
Member, Elizabeth E. Bailey
Member, Gloria Schaffer

[S-279-79 Filed 2-7-79; 3:05 pm]

[6570-06-M]

3

EQUAL EMPLOYMENT OPPORTUNITY COMMISSION.

TIME AND DATE: 9:30 am (Eastern Time), Tuesday, February 13, 1979.

PLACE: Commission Conference Room, No. 5240, on the fifth floor of the Columbia Plaza Office Building, 2401 E Street NW, Washington, DC 20506.

STATUS: Open to the public.

MATTERS TO BE CONSIDERED: 1. Freedom of Information Act Appeal No. 78-12-FOIA-285, concerning a request by the husband of a party charging discrimination for copies of all paperwork pertaining to his wife's charge.

2. Proposed Designation of the Colorado State Personnel Board as a 706 Agency.

3. Office of Interagency Coordination Priority List.

4. Proposed Delegations of Authority to Perform Certain Functions Transferred from the Civil Service Commission.

5. Proposed Questions and Answers on Employee Selection Guidelines.

6. Report on Commission Operations by the Executive Director.

NOTE.—Any matter not discussed or concluded may be carried over to a later meeting.

CONTACT PERSON FOR MORE INFORMATION:

Marie D. Wilson, Executive Officer, Executive Secretariat, at (202) 634-6748.

This notice issued February 6, 1979.

[S-274-79 Filed 2-7-79; 2:06 pm]

[6570-06-M]

4

EQUAL EMPLOYMENT OPPORTUNITY COMMISSION.

TIME AND DATE: 9:30 a.m. (Eastern Time), Thursday, February 8, 1979.

PLACE: Commission Conference Room, No. 5240, on the fifth floor of the Columbia Plaza Office Building, 2401 E Street NW., Washington, D.C. 20506.

STATUS: Open to the public.

MATTERS TO BE CONSIDERED: Proposed Office of Personnel Management Regulations for Federal Recruitment Program.

NOTE.—If action is not concluded, this matter may be carried over to a later meeting.

By a unanimous vote of the entire membership of the Commission, it was determined by recorded vote that the business of the Commission required that this meeting be held and that no earlier announcement was possible.

In favor of holding meeting: Eleanor Holmes Norton, Chair; Daniel E.

Leach, Vice Chair; Ethel Bent Walsh, Commissioner; Armando M. Rodriguez, Commissioner; and J. Clay Smith, Jr., Commissioners.

CONTACT PERSON FOR MORE INFORMATION:

Marie D. Wilson, Executive Officer, Executive Secretariat, at (202) 634-6748.

This notice issued February 6, 1979.

[S-276-79 Filed 2-7-79; 2:06 pm]

[6712-01-M]

5

FEDERAL COMMUNICATIONS COMMISSION.

PREVIOUSLY ANNOUNCED TIME AND DATE OF MEETING: 9:30 a.m., Tuesday, February 6, 1979.

PLACE: Room 856, 1919 M Street, NW., Washington, D.C.

STATUS: Special Open Commission Meeting.

CHANGES IN THE MEETING: The following items have been deleted:

AGENDA, ITEM NUMBER, AND SUBJECT

Common Carrier—2—Provision of domestic facilities to International Record Carriers by AT&T (CC Docket No. 21499).

Common Carrier—3—Application of French Telegraph Cable Company seeking authority to establish facilities for the provision of its authorized international services from the gateways of San Francisco and Washington, D.C. in addition to its New York gateway.

Additional information concerning this meeting may be obtained from the FCC Public Information Office, telephone number (202) 632-7260.

Issued: February 6, 1979.

[S-273-79 Filed 2-7-79; 11:28 am]

[6450-01-M]

6

FEDERAL ENERGY REGULATORY COMMISSION.

TIME AND DATE: February 7, 1979; 4:00 p.m.

PLACE: Room 9306, 825 North Capitol St., N.E., Washington, D.C.

STATUS: Closed.

MATTERS TO BE CONSIDERED: An additional item is added to this previously announced closed meeting relating to discussing a request by the staff for authorization to disclose nonpublic and confidential information and to participate in Grand Jury proceedings.

CONTACT PERSON FOR MORE INFORMATION:

Kenneth F. Plumb, Secretary, Telephone (202) 275-4166.

The following members of the Commission voted that agency business requires the holding of a closed meeting on less than the one week's notice required by the Government in the Sunshine Act: Chairman Curtis, Commissioner Sheldon, Commissioner Holden, and Commissioner Hall.

[S-272-79 Filed 2-7-79; 11:22 am]

[6210-01-M]

7

BOARD OF GOVERNORS OF THE FEDERAL RESERVE SYSTEM.

TIME AND DATE: 10 a.m., Wednesday, February 14, 1979.

PLACE: 20th Street and Constitution Avenue, NW., Washington, D.C. 20551.

STATUS: Open.

MATTERS TO BE CONSIDERED: 1. Proposed revisions of the Board's regulations relating to Edge Corporations and foreign branches of member banks to implement the International Banking Act.

2. Proposals to implement Titles VIII and IX of the Financial Institutions Regulatory and Interest Rate Control Act.

3. Report to the Comptroller of the Currency regarding the competitive factors involved in the proposed merger of Caddo Trust and Savings Bank, Belcher, Louisiana, with The First National Bank of Shreveport, Shreveport, Louisiana.

4. Any agenda items carried forward from a previously announced meeting.

NOTE: This meeting will be recorded for the benefit of those unable to attend. Cassettes will be available for listening in the Board's Freedom of Information Office, and copies may be ordered for $5 per cassette by calling (202) 452-3684 or by writing to: Freedom of Information Office, Board of Governors of the Federal Reserve System, Washington, D.C. 20551.

CONTACT PERSON FOR MORE INFORMATION:

Mr. Joseph R. Coyne, Assistant to the Board: (202) 452-3204.

[S-270-79 Filed 2-7-79; 11:22 am]

[7020-02-M]

8

UNITED STATES INTERNATIONAL TRADE COMMISSION.

FEDERAL REGISTER CITATION OF PREVIOUS ANNOUNCEMENT: 44 FR 6838-9, February 2, 1979.

PREVIOUSLY ANNOUNCED TIME AND DATE OF THE MEETING: 11:00 a.m., Tuesday, February 13, 1979.

CHANGES IN THE MEETING: Additional agenda item—less than ten days' notice.

8. Certain attache cases (Inv. 337-TA-49)—consideration and possible vote.

CONTACT PERSON FOR MORE INFORMATION:

Kenneth R. Mason, Secretary, (202) 523-0161.

[S-271-79 Filed 2-7-79; 11:22 am]

[7590-01-M]

9

NUCLEAR REGULATORY COMMISSION.

TIME AND DATE: Week of February 5, 1979 (Changes).

PLACE: Commissioners' Conference Room, 1717 H St., NW., Washington, D.C.

STATUS: Open.

MATTERS TO BE CONSIDERED:

TUESDAY, FEBRUARY 6, 1:30 P.M.

3. (Additional Item) Affirmation of paper "Hearing of Duke Power Co. re Transfer of Fuel." (approx 5 min) (Public meeting).

On February 6, 1979, the Commission voted 5-0 pursuant to 5 U.S.C. 552b(3)(1) and § 9.107(a) of the Commission's Rules that Commission business requires that the above item be held on less than one week's notice to the public. Prompt discussion is required to permit immediate Board action on several pending actions.

CONTACT PERSON FOR MORE INFORMATION:

Walter Magee 202-634-1410.

WALTER MAGEE,
Office of the Secretary.

[S-275-79 Filed 2-7-79; 2:06 pm]

[8010-011-M]

10

SECURITIES AND EXCHANGE COMMISSION.

FEDERAL REGISTER CITATION OF PREVIOUS ANNOUNCEMENT: (44 FR 6839, February 2, 1979)

STATUS: Closed meeting.

PLACE: Room 825, 500 North Capitol Street, Washington, D.C.

DATE PREVIOUSLY ANNOUNCED: January 30, 1979.

CHANGES IN MEETING: Additional items.

The following additional items will be considered at a closed meeting scheduled for

Thursday, February 8, 1979, immediately following the open meeting at 2:30 p.m.:

- Institution of injunctive actions.
- Formal order of investigation.
- Litigation matters.

Chairman Williams and Commissioners Loomis, Evans, Pollack and Karmel determined that Commission business required the above changes and that no earlier notice thereof was possible.

FEBRUARY 7, 1979.

[S-277-79 Filed 2-7-79; 2:06 pm]

[8010-01-M]

11

SECURITIES AND EXCHANGE COMMISSION.

Notice is hereby given, pursuant to the provisions of the Government in the Sunshine Act, Pub. L 94-409, that the Securities and Exchange Commission will hold the following meetings during the week of February 12, 1979, in Room 825, 500 North Capitol Street, Washington, D.C.

Closed meetings will be held on Tuesday, February 13, 1979 at 10:00 a.m., and on Thursday, February 15, 1979, following the 10:00 a.m. open meeting. An open meeting will be held on Thursday, February 15, 1979, at 10:00 a.m.

The Commissioners, their legal assistants, the Secretary of the Commission, and recording secretaries will attend the closed meetings. Certain staff members who are responsible for the calendared matters may be present.

The General Counsel of the Commission, or his designee, has certified that, in his opinion, the items to be considered at the closed meetings may be considered pursuant to one or more of the exemptions set forth in 5 U.S.C. 552b(c)(4)(8)(9)(A) and (10) and 17 CFR 200.402 (a)(8)(9)(i) and (10).

Chairman Williams and Commissioners Loomis, Evans, Pollack and Karmel determined to hold the aforesaid meetings in closed session.

The subject matter of the closed meeting scheduled for Tuesday, February 13, 1979, will be:

- Settlement of administrative proceedings of an enforcement nature.
- Settlement of injunctive actions.
- Access to investigative files by Federal, state, or self-regulatory authories.
- Chapter X proceeding.
- Formal orders for investigation.
- Institution of administrative proceeding of an enforcement nature.
- Institution of injunctive actions.

The subject matter of the closed meeting scheduled for Thursday, February 15, will be:

- Litigation matter.
- No-action position.
- Opinions.

The subject matter of the open meeting scheduled for Thursday, February 15, 1979, at 10:00 a.m. will be:

Consideration of an interpretative release setting forth the views and practices of the Division of Corportion Finance in administering existing disclosure requirements under the proxy rules in the context of certain novel, multi-step sale of assets transactions. For further information, contact Jennifer A. Sullivan at (202) 755-1750.

FOR FURTHER INFORMATION, CONTACT:

John Ketels at (202) 755-1129

FEBRUARY 6, 1979.

[S-269-79 Filed 2-7-79; 11:22 am]

federal register

FRIDAY, FEBRUARY 9, 1979

PART II

THE NATIONAL ARCHIVES OF THE UNITED STATES 1934

DEPARTMENT OF LABOR

Employment Standards Administration

◆

MINIMUM WAGES FOR FEDERAL AND FEDERALLY ASSISTED CONSTRUCTION

General Wage Determination Decisions

[4510-27-M]

DEPARTMENT OF LABOR

Employment Standards Administration Wage and Hour Division

MINIMUM WAGES FOR FEDERAL AND FEDERALLY ASSISTED CONSTRUCTION

General Wage Determination Decisions

General wage determination decisions of the Secretary of Labor specify, in accordance with applicable law and on the basis of information available to the Department of Labor from its study of local wage conditions and from other sources, the basic hourly wage rates and fringe benefit payments which are determined to be prevailing for the described classes of laborers and mechanics employed in construction activity of the character and in the localities specified therein.

The determinations in these decisions of such prevailing rates and fringe benefits have been made by authority of the Secretary of Labor pursuant to the provisions of the Davis-Bacon Act of March 3, 1931, as amended (46 Stat. 1494, as amended, 40 U.S.C. 276a) and of other Federal statutes referred to in 29 CFR 1.1 (including the statutes listed at 36 FR 306 following Secretary of Labor's order No. 24-70) containing provisions for the payment of wages which are dependent upon determination by the Secretary of Labor under the Davis-Bacon Act; and pursuant to the provisions of part 1 of subtitle A of title 29 of Code of Federal Regulations, Procedure for Predetermination of Wage Rates (37 FR 21138) and of Secretary of Labor's Orders 12-71 and 15-71 (36 FR 8755, 8756). The prevailing rates and fringe benefits determined in these decisions shall, in accordance with the provisions of the foregoing statutes, constitute the minimum wages payable on Federal and federally assisted construction projects to laborers and mechanics of the specified classes engaged on contract work of the character and in the localities described therein.

Good cause is hereby found for not utilizing notice and public procedure thereon prior to the issuance of these determinations as prescribed in 5 U.S.C. 553 and not providing for delay in effective date as prescribed in that section, because the necessity to issue construction industry wage determination frequently and in large volume causes procedures to be impractical and contrary to the public interest.

General wage determination decisions are effective from their date of publication in the FEDERAL REGISTER without limitation as to time and are to be used in accordance with the provisions of 29 CFR Parts 1 and 5. Accordingly, the applicable decision together with any modifications issued subsequent to its publication date shall be made a part of every contract for performance of the described work within the geographic area indicated as required by an applicable Federal prevailing wage law and 29 CFR, Part 5. The wage rates contained therein shall be the minimum paid under such contract by contractors and subcontractors on the work.

MODIFICATIONS AND SUPERSEDEAS DECISIONS TO GENERAL WAGE DETERMINATION DECISIONS

Modifications and supersedeas decisions to general wage determination decisions are based upon information obtained concerning changes in prevailing hourly wage rates and fringe benefit payments since the decisions were issued.

The determinations of prevailing rates and fringe benefits made in the modifications and supersedeas decisions have been made by authority of the Secretary of Labor pursuant to the provisions of the Davis-Bacon Act of March 3, 1931, as amended (46 Stat. 1494, as amended, 40 U.S.C. 276a) and of other Federal statutes referred to in 29 CFR 1.1 (including the statutes listed at 36 FR 306 following Secretary of Labor's order No. 224-70) containing provisions for the payment of wages which are dependent upon determination by the Secretary of Labor under the Davis-Bacon Act; and pursuant to the provisions of Part 1 of Subtitle A of Title 29 of Code of Federal Regulations, Procedure for Predetermination of Wage Rates (37 FR 21138) and of Secretary of Labor's orders 13-71 and 15-71 (36 FR 8755, 8756). The prevailing rates and fringe benefits determined in foregoing general wage determination decisions, as hereby modified, and/or superseded shall, in accordance with the provisions of the foregoing statutes, constitute the minimum wages payable on Federal and federally assisted construction projects to laborers and mechanics of the specified classes engaged in contract work of the character and in the localities described therein.

Modifications and supersedeas decisions are effective from their date of publication in the FEDERAL REGISTER without limitation as to time and are to be used in accordance with the provisions of 29 CFR Parts 1 and 5.

Any person, organization, or governmental agency having an interest in the wages determined as prevailing is encouraged to submit wage rate information for consideration by the Department. Further information and self-explanatory forms for the purpose of submitting this data may be obtained by writing to the U.S. Department of Labor, Employment Standards Administration, Office of Government Contract Wage Standards, Division of Wage Determinations, Washington, D.C. 20210. The cause for not utilizing the rulemaking procedures prescribed in 5 U.S.C. 553 has been set forth in the original general wage determination decision.

NEW GENERAL WAGE DETERMINATION DECISIONS

Ohio.—OH79-2005.

MODIFICATION TO GENERAL WAGE DETERMINATION DECISIONS

The numbers of the decisions being modified and their dates of publication in the FEDERAL REGISTER are listed with each State.

Arkansas:	
AR78-4116	Dec. 8, 1978.
Florida:	
FL77-1146	Mar. 24, 1977.
Iowa:	
IA78-4027	Apr. 7, 1978.
Kansas:	
KS78-4008; KS78-4009	Feb. 3, 1978.
Maryland:	
MD78-3046	May 19, 1978.
New Mexico:	
NM79-4021	Jan. 5, 1979.
North Dakota:	
ND78-5113	July 21, 1978.
ND78-5125	Sept. 22, 1978.
Pennslyvania:	
PA78-3012	Apr. 28, 1978.
PA78-3013; PA78-3016	Apr. 14, 1978.
PA78-3014	Mar. 24, 1978.
PA78-3017	May 5, 1978.
PA78-3015; PA78-3040; PA78-3044	May 12, 1978.
PA78-3064; PA78-3065; PA78-3066	Sept. 22, 1978.
PA78-3068; PA78-3070	Sept. 29, 1978.
PA78-3069; PA78-3071	Oct. 6, 1978.
PA78-3099	Dec. 15, 1978.
South Carolina:	
SC76-1008	Jan. 9, 1976.
SC78-1085	Sept. 29, 1978.
Virginia:	
VA78-3100	Dec. 8, 1978.

SUPERSEDEAS DECISIONS TO GENERAL WAGE DETERMINATION DECISIONS

The numbers of the decisions being superseded and their dates of publication in the FEDERAL REGISTER are listed with each State.

Supersedeas Decision numbers are in parentheses following the numbers of the decisions being superseded.

Alaska:	
AK78-5131 (AK79-5105)	Dec. 29, 1978.
Arizona:	
AZ78-5114 (AZ79-5100)	Aug. 11, 1978.
Florida:	
FL77-1142 (FL79-1036)	Dec. 2, 1977
FL77-1152 (FL79-1030)	Dec. 9, 1977.
FL78-1055 (FL79-1028)	June 16, 1978.
FL78-1073 (FL79-1029)	Sept. 8, 1978.
Kentucky:	
KY77-1084 (KY79-1033)	June 24, 1977.
KY77-1107 (KY79-1035); KY77-1110 (KY79-1031)	Aug. 26, 1977.
KY77-1127 (KY79-1034)	Sept. 30, 1977.
KY78-1032 (KY79-1032)	Apr. 7, 1978.
Montana:	
MT78-5121 (MT79-5101)	Aug. 4, 1978.
Nebraska:	
NE78-4006 (NE79-4026)	Feb. 3, 1978.
Tennessee:	
TN77-1084 (TN79-1033)	June 24, 1977.

CANCELLATION OF GENERAL WAGE DETERMINATION DECISIONS

NONE.

Signed at Washington, D.C., this 2nd day of February 1979.

DOROTHY P. COME,
Assistant Administrator Wage and Hour Division.

[4510-27-C]

NEW DECISION

STATE: OHIO COUNTIES: *SEE BELOW
DECISION NO.: OH79-2005 DATE: Date of Publication
DESCRIPTION OF WORK: Residential Construction Consisting of single family homes and garden type apartments up to and including 4 stories

*Jackson, Pike, Scioto, & Vinton

	Basic Hourly Rates	Fringe Benefits Payments			
		H & W	Pensions	Vacation	Education and/or Appr. Tr.
AIR CONDITIONING MECHANICS	$6.84				
BRICKLAYERS	5.50				
CARPENTERS	5.82				
CEMENT MASONS	5.57				
DRYWALL FINISHERS	5.60				
DRYWALL HANGERS	6.00				
ELECTRICIANS	5.71				
IRONWORKERS, ornamental	5.05				
LABORERS:					
Common	4.00				
Mason tenders	4.79				
PAINTERS	4.90				
PLUMBERS	6.34				
ROOFERS	5.40				
SHEET METAL WORKERS	5.79				
SOFT FLOOR LAYERS	6.03				
TILE SETTERS	5.25				
TRUCK DRIVERS	5.99				
POWER EQUIPMENT OPERATORS:					
Backhoes	6.00				
Bulldozers	6.81				
Front end loaders	6.00				

MODIFICATIONS P. 1

	Basic Hourly Rates	Fringe Benefits Payments			
DECISION NO. AR78-4116 - Mod. #2 (43 FR 57779 - December 8, 1978) Sebastian, Crawford and Washington Counties, Arkansas		H & W	Pensions	Vacation	Education and/or Appr. Tr.
CHANGE:					
SEBASTIAN AND CRAWFORD COUNTIES:					
LINE CONSTRUCTION:					
Linemen, operator	$9.81	.35	3%+.055		1/4%
Cable splicers	9.96	.35	3%+.055		1/4%
Powderman	90%JR	.35	3%+.055		1/4%
Truck drivers	75%JR	.35	3%+.055		1/4%
Groundman	65%JR	.35	3%+.055		1/4%
Groundman (1st 6 months)	50%JR	.35	3%+.055		1/4%
DECISION #FL77-1146 - Mod. #4 (43 FR 12534 - March 24, 1978) Orange County, Florida					
Change: Decision No. as reflected in Modification # 3 published in the Federal Register of January 26, 1979 from FL78-1055 to FL77-1146					

MODIFICATIONS P. 2

DECISION #IA78-4027 - Mod. #3
(43 FR - 14855 - April 7, 1978)
Statewide Iowa Heavy and Highway

Change:	Basic Hourly Rates	Fringe Benefits Payments			
		H & W	Pensions	Vacation	Education and/or Appr. Tr.
City of Council Bluffs					
Carpenters & Piledrivermen	9.42	.45	.25		
Laborers:					
Group 1	7.20	.60	.45		
Group 2	7.31	.60	.45		
Group 3	7.41	.60	.45		
Group 4	7.52	.60	.45		
Group 5	7.47	.60	.45		
Group 6	7.87	.60	.45		
Linn & Polk Counties & the Cities of Ames & Dubuque					
Carpenters & Piledrivermen	9.42	.45	.25		
Laborers:					
Group 1	8.61	.30	.40		.05
Group 2	8.36	.30	.40		.05
Group 3	8.11	.30	.40		.05
Group 4	7.96	.30	.40		.05
Group 5	7.86	.30	.40		.05
Cities of Burlington & Clinton & Burlington Ordinance Plant					
Carpenters & Piledrivermen	9.42	.45	.25		
Laborers:					
Group 1	8.61	.30	.40		.05
Group 2	8.36	.30	.40		.05
Group 3	8.11	.30	.40		.05
Group 4	7.96	.30	.40		.05
Group 5	7.86	.30	.40		.05
City of Fort Dodge					
Carpenters & Piledrivermen	8.78	.45	.25		
Laborers:					
Group 1	8.26	.30	.40		.05
Group 2	8.01	.30	.40		.05
Group 3	7.76	.30	.40		.05
Group 4	7.61	.30	.40		.05
Group 5	7.51	.30	.40		.05

MODIFICATIONS P. 3

DECISION #IA78-4027 - Mod. #3

Change:	Basic Hourly Rates	Fringe Benefits Payments			
		H & W	Pensions	Vacation	Education and/or Appr. Tr.
City of Iowa City					
Carpenters & Piledrivermen	9.42	.45	.25		
Laborers:					
Group 1	8.61	.30	.40		.05
Group 2	8.36	.30	.40		.05
Group 3	8.11	.30	.40		.05
Group 4	7.96	.30	.40		.05
Group 5	7.86	.30	.40		.05
City of Mason City					
Carpenters & Piledrivermen	8.78	.45	.25		
Laborers:					
Group 1	8.26	.30	.40		.05
Group 2	8.01	.30	.40		.05
Group 3	7.76	.30	.40		.05
Group 4	7.61	.30	.40		.05
Group 5	7.51	.30	.40		.05
Black Hawk County					
Carpenters & Piledrivermen	9.42	.45	.25		
Laborers:					
Group 1	8.61	.30	.40		.05
Group 2	8.35	.30	.40		.05
Group 3	8.11	.30	.40		.05
Group 4	7.96	.30	.40		.05
Group 5	7.86	.30	.40		.05

MODIFICATIONS P. 4

	Basic Hourly Rates	Fringe Benefits Payments			
		H & W	Pensions	Vacation	Education and/or Appr. Tr.
Decision #KS78-4008-Mod. #4 (43 FR 4812-February 3,1978) Building Sedgwick County, Kansas					
CHANGE:					
Power Equipment Operators:					
Group 1	$10.25	.50	1.00	.75	.10
Group 2	9.85	.50	1.00	.75	.10
Group 3					
(a)	8.80	.50	1.00	.75	.10
(b)	9.05	.50	1.00	.75	.10
Group 4					
(a)	8.25	.50	1.00	.75	.10
(b)	8.50	.50	1.00	.75	.10
Group 5	10.75	.50	1.00	.75	.10
Group 6	10.50	.50	1.00	.75	.10
Group 7	10.75	.50	1.00	.75	.10
Group 8	12.25	.50	1.00	.75	.10
Group 9	11.25	.50	1.00	.75	.10
Decision #KS78-4009-Mod. #5 (43 FR 4814-February 3,1978) Building Shawnee County, Kansa					
CHANGE:					
Power Equipment Operators:					
Group 1	$10.25	.50	1.00	.75	.10
Group 2	9.85	.50	1.00	.75	.10
Group 3					
(a)	8.80	.50	1.00	.75	.10
(b)	9.05	.50	1.00	.75	.10
Group 4					
(a)	8.25	.50	1.00	.75	.10
(b)	8.50	.50	1.00	.75	.10
Group 5	10.75	.50	1.00	.75	.10
Group 6	10.50	.50	1.00	.75	.10
Group 7	10.75	.50	1.00	.75	.10
Group 8	11.25	.50	1.00	.75	.10
Group 9	12.25	.50	1.00	.75	.10

MODIFICATIONS P. 5

DECISION #MD78-3046 - Mod #3
(42 FR 21813 - May 19, 1978)
Baltimore City, Maryland

	Basic Hourly Rates	Fringe Benefits Payments			
		H & W	Pensions	Vacation	Education and/or Appr. Tr.
Change:					
Electricians	11.00	.80	3%+.90		½%
Laborers	6.60	.30	.50		.075
Line Construction:					
Linemen, Cable Splicers, Digging & Equipment Operators	12.20	.60	3%		
Winch Trucks and Trucks with pole or steel handling	8.14	.60	3%		
Trucks without winch	7.59	.60	3%		
Groundmen	7.65	.60	3%		
Truck Drivers:					
Pickups	7.05	1.05	.75	a+b	
Dumps	7.23	1.05	.75	a+b	
Drop frame, gooseneck, and trailer drivers	7.43	1.05	.75	a+b	
Euclids & Dumpsters	7.54	1.05	.75	a+b	
Add:					
Bricklayers	10.63	.70	.50		.07
Laborers:					
Power Tool Operators	6.70	.30	.50		.075
Pipelayers, wagon drill operato, air track driller, burners (demolition), concrete surfacer (curb only)	7.10	.30	.50		.075
Mason tenders & mortar mixers (brick and stone work only)	7.75	.30	.50		.075

	Basic Hourly Rates	Fringe Benefits Payments			
		H & W	Pensions	Vacation	Education and/or Appr. Tr.
DECISION NO. NM79-4021 - Mod #2					
(44 FR 1652 - January 5, 1979)					
Statewide, New Mexico					
CHANGE:					
CEMENT MASONS:					
Area I	$ 9.22	.67	.55		.20
Area II					
Zone 1	9.22	.67	.55		.20
Zone 2	10.22	.67	.55		.20
Zone 3	10.75	.67	.55		.20
Cement masons (Heavy Const.)	9.22	.67	.55		.20
Cement masons (Residential)	6.00	.67	.55		.20
CEMENT MASONS-COMPOSITION AND MACHINE OPERATORS:					
Area I	9.47	:67	.55		.20
Area II					
Zone 1	9.47	.67	.55		.20
Zone 2	10.47	.67	.55		.20
Zone 3	10.97	.67	.55		.20
PLASTERERS:					
Statewide except Otero, Grant, Sierra, Dona Ana, Luna and Hildago Counties	10.26	.67	.55		.06
Otero, Grant, Sierra, Dona Ana, Luna and Hidalgo Counties	8.25	.67	.55		.20

	Basic Hourly Rates	Fringe Benefits Payments			
		H & W	Pensions	Vacation	Education and/or Appr. Tr.
DECISION NO. ND78-5125 - MOD #1					
(43 FR 43222 - Sept. 22, 1978)					
Statewide North Dakota					
CHANGE:					
POWER EQUIPMENT OPERATORS:					
Group 1	$9.50	.70	.55		
Group 2	9.35	.70	.55		
Group 3	9.20	.70	.55		
Group 4	9.15	.70	.55		
Group 5	8.90	.70	.55		
Group 6	8.67	.70	.55		
Group 7	7.74	.70	.55		
Group 8	7.59	.70	.55		
Group 9	7.49	.70	.55		
Group 10	7.15	.70	.55		
DECISION NO. ND78-5113 - Mod #2					
(43 FR 31563 - July 21, 1978)					
Burleigh, Cass, Grand Forks, Morton, Richland, Steele, Walsh and Ward Counties, North Dakota					
CHANGE:					
POWER EQUIP OPER (BLDG)					
Group 1	10.30	.70	.55		
Group 2	9.35	.70	.55		
Group 3	8.75	.70	.55		
Group 4	7.75	.70	.55		
POWER EQUIP OPER (SITE PREP.)					
Group 1	9.50	.70	.55		
Group 2	9.35	.70	.55		
Group 3	9.20	.70	.55		
Group 4	9.15	.70	.55		
Group 5	8.90	.70	.55		
Group 6	8.67	.70	.55		
Group 7	7.74	.70	.55		
Group 8	7.59	.70	.55		
Group 9	7.49	.70	.55		
Group 10	7.15	.70	.55		

MODIFICATIONS P. 8

DECISION #PA78-3012 - Mod. #10
(43 FR 18476 - April 28, 1978)
Clinton, Centre, Huntingdon,
Fulton & Mifflin Counties,
Pennsylvania

Change:	Basic Hourly Rates	Fringe Benefits Payments			
		H & W	Pensions	Vacation	Education and/or Appr. Tr.
Bricklayers & Stonemasons					
Zone 1	9.90	.75	.90		.01
Zone 3	9.90	.70	.65		.015
Line Construction					
Zone 2					
Lineman dynamiteman, Heavy Equipment Operator	11.61	.50	3%		3/8 of 1%
Groundman	7.80	.50	3%		3/8 of 1%
Winch Truck Operator	8.16	.50	3%		3/8 of 1%

DECISION #PA78-3013 - Mod. #7
(43 FR 16097 - April 14, 1978)
Bedford, Cambria, Cameron, Clarion,
Clearfield, Jefferson, Crawford,
& Venango Counties, Pennsylvania

Change:	Basic Hourly Rates	H & W	Pensions	Vacation	Education and/or Appr. Tr.
Bricklayers:					
Zone 5	9.90	.75	.90		.01
Line Construction:					
Zone 2					
Class 1	11.61	.50	3%		3/8 of 1%
Class 2	8.16	.50	3%		3/8 of 1%
Class 3	7.80	.50	3%		3/8 of 1%

MODIFICATIONS P. 9

DECISION #PA78-3014 - Mod. #7
(43 FR 12603 - March 24, 1978)
Armstrong, Allegheny, Beaver, Butler,
Fayette, Indiana, Washington,
& Westmoreland Counties Pennsylvania

Change:	Basic Hourly Rates	Fringe Benefits Payments			
		H & W	Pensions	Vacation	Education and/or Appr. Tr.
Line Construction					
Zone 2					
Linemen, Dynamiteman, Heavy Equipment Operator	11.61	.50	3%		3/8%
Winch Truck Operator	8.16	.50	3%		3/8%
Groundman	7.80	.50	3%		3/8%

DECISION #PA78-3015 - Mod. #6
(43 FR 20697 - May 12, 1978)
Greene, Somerset & Potter
Counties, Pennsylvania

Change:	Basic Hourly Rates	H & W	Pensions	Vacation	Education and/or Appr. Tr.
Line Construction					
Zone 1					
Linemen, Dynamiteman, Heavy Equipment Operator	11.61	.50	3%		3/8 of 1%
Winch Truck Operators	8.16	.50	3%		3/8 of 1%
Groundman	7.80	.50	3%		3/8 of 1%

DECISION #PA78-3016 - Mod. #6
(43 FR 16106 - April 14, 1978)
Lehigh County, Pennsylvania

Change:	Basic Hourly Rates	H & W	Pensions	Vacation	Education and/or Appr. Tr.
Soft Floor Layers	9.30	.44	.72	.45	
Plumbers	12.37	.81	1.30		.14
Steamfitters	12.26	.80	1.45		.11

MODIFICATIONS P. 10

DECISION #PA78-3017 - Mod. #8
(43 FR - May 5, 1978)
Carbon, Monroe County, including Tobyhanna Army Depot, and Pike County, Pennsylvania

Change:	Basic Hourly Rates	Fringe Benefits Payments			
		H & W	Pensions	Vacation	Education and/or Appr. Tr.
Line Construction					
Lineman, Dynamiteman, Heavy Equipment Operator	11.61	.50	3%		3/8 of 1%
Winch Truck Operator	8.16	.50	3%		3/8 of 1%
Groundman	7.80	.50	3%		3/8 of 1%

DECISION #PA78-3043 - Mod. #4
(43 FR 20707 - May 12. 1978)
Elk, Forest, Mckean, and Warren Counties, Pennsylvania

Change:	Basic Hourly Rates	H & W	Pensions	Vacation	Education and/or Appr. Tr.
Ironworkers					
Zone 1 Forest and Warren Cos.	12.00	1.86	1.01		.15
Electricains:					
Zone 1 Elk, Forest & Warren Co,s	12.80	4.5%	3% +.406	.75	.067
Plumbers & Steamfitters:					
Zone 2 Forest County Only	11.95	.70	1.00		.10
Line Construction					
Linemen, Dynamiteman, Heavy Equipment Operator	11.61	.50	3%		3/8 of 1%
Winch Truck Operator	8.16	.50	3%		3/8 of 1%
Groundman	7.80	.50	3%		3/8 of 1%

DECISION #PA78-3044 - Mod. #6
(43 FR 20711 - May 12, 1978)
Luzerne County Pennsylvania

Change:	Basic Hourly Rates	H & W	Pensions	Vacation	Education and/or Appr. Tr.
Line Construction					
Lineman, Dynamiteman, Heavy Equipemnt Operator	11.61	.50	3%		3/8 of 1%
Winch Truck Operator	8.16	.50	3%		3/8 of 1%
Groundman	7.80	.50	3%		3/8 of 1%

MODIFICATIONS P. 11

DECISION #PA78-3064 - Mod. #3
(43 FR 43224 - September 22, 1978)
Schuylkill County, Pennsylvania

Change:	Basic Hourly Rates	Fringe Benefits Payments			
		H & W	Pensions	Vacation	Education and/or Appr. Tr.
Electricians:					
North Manheim, West Brunswick, Wayne, Washington, Pottsville, Schuylkill Haven Twps	11.59	.78	3% + .30		.03
Line Construction:					
Lineman, Heavy Equipment Operator	11.61	.50	3%		3/8%
Winch Truck Operator	8.16	.50	3%		3/8%
Groundman	7.80	.50	3%		3/8%

DECISION #PA78-3065 - Mod. #2
(43 FR 43226 - September 22, 1978)
Sullivan County, Pennsylvania

Change:	Basic Hourly Rates	H & W	Pensions	Vacation	Education and/or Appr. Tr.
Line Construction:					
Lineman & Cable Splicer	11.61	.50	3%		3/8 of 1%
Winch Truck Operator	8.16	.50	3%		3/8 of 1%
Groundman	7.80	.50	3%		3/8 of 1%

DECISION #PA78-3066 - Mod. #4
(43 FR 43228 - September 22, 1978)
Columbia, Montour, & Snyder Counties, Pennsylvania

Change:	Basic Hourly Rates	H & W	Pensions	Vacation	Education and/or Appr. Tr.
Line Construction:					
Lineman, Dynamiteman, Heavy Equipment Operator	11.61	.50	3%		3/8 of 1%
Winch Truck Operator	8.16	.50	3%		3/8 of 1%
Groundman	7.80	.50	3%		3/8 of 1%

DECISION #PA78-3068 - Mod. #3
(43 FR 45160 - September 29, 1978)
Lebanon County, Pennsylvania

Change:	Basic Hourly Rates	H & W	Pensions	Vacation	Education and/or Appr. Tr.
Plumbers & Steamfitters East of Rte. 501	12.37	.81	1.30		.14

MODIFICATIONS P. 12

	Basic Hourly Rates	Fringe Benefits Payments			
		H & W	Pensions	Vocation	Education and/or Appr. Tr.
DECISION #PA78-3069 - Mod. #3 (43 FR 46475 - October 6, 1978) Berks County, Pennsylvania					
Change:					
Electricians:					
Remainder of County	11.59	.78	3% +.30		.03
Plumbers	12.37	.81	1.30		.14
Steamfitters	12.26	.80	1.45		.11
DECISION #PA78-3070 - Mod #3 (43 FR 45162 - September 29, 1978) Lancaster County, Pennsylvania					
Change:					
Electricians:					
W. Calico, E. Calico, Brecknock, E. Carl, & Caernarvon Twps.	11.59	.78	3% +.30		.03
DECISION #PA78-3071 - Mod. #1 (43 FR 46477 - October 6, 1978) Erie County Pennsylvania					
Change:					
Ironworkers:					
Structural	12.00	1.86	1.01		.15
Ornamental	12.00	1.86	1.01		.15
Reinforcing	12.00	1.86	1.01		.15
Electricians	12.80	4.5%	3% +.406	.75	.067
Painters:					
Brush	9.50	.60	.50		.02
Structural Steel	10.25	.60	.50		.02
Spray	10.00	.60	.50		.02
Plumbers	11.92	.75	1.05		.06
Steamfitters	11.92	.75	1.05		.06
Line Construction:					
Linemen, Heavy Equipment Operators	11.61	.50	3%		3/8 of 1%
Winch Truck Operator	8.16	.50	3%		3/8 of 1%
Groundmen	7.80	.50	3%		3/8 of 1%

MODIFICATIONS P. 13

	Basic Hourly Rates	Fringe Benefits Payments			
		H & W	Pensions	Vocation	Education and/or Appr. Tr.
DECISION #PA78-3099 - Mod. #2 (43 FR 58729 - December 15, 1978) Bradford, Tioga & Union Counties, Pennsylvania					
Change:					
Bricklayers & Stonemasons	9.90	.70	.65		.015
Line Construction:					
Lineman, Dynamiteman, Heavy Equipment Operator	11.61	.50	3%		3/8 of 1%
Winch Truck Operator	8.16	.50	3%		3/8 of 1%
Groundman	7.80	.50	3%		3/8 of 1%
DECISION #SC76-1008 - Mod.#5 (41 FR 1699 - January 9, 1976) Sumter County, South Carolina					
Change: Mod. #3 published in the Federal Register on January 12, 1979 to: Mod. #4					

DECISION NO. SC78-1085 - Mod. #1
(43 FR 45164 - September 29, 1978)
Statewide, South Carolina

Change:
Description of Work to read:
Water and Sewer Construction; and
Heavy Construction excluding Dam Construction

MODIFICATIONS P. 14

	Basic Hourly Rates	Fringe Benefits Payments			
		H & W	Pensions	Vacation	Education and/or Appr. Tr.
Decision #VA78-3100-Mod. #1 (43 FR-57794-December 8,1978) Highway:The Independent Cities of Chesapeake, Hampton, Newport News, Norfolk, Portsmouth, and Virginia Beach					
CHANGE:					
Pipelayer	$4.00				
Add:					
Truck Driver, Single-rear Axle	3.08				

SUPERSEDEAS DECISION

STATE: Alaska
COUNTIES: Statewide
DECISION NUMBER: AK79-5105
DATE: Date of Publication
Supersedes Decision No. AK78-5131 dated December 29, 1978, in 43 FR 61191
DESCRIPTION OF WORK: Building Construction (including residential construction consisting of single family homes and garden type apartments up to and including 4 stories), Heavy and Highway Construction and Dredging.

AREA 1 (North of the 63rd Parallel)
AREA 2 (South of the 63rd Parallel and West of the 141st Meridian)
AREA 3 (East of the 141st Meridian)

	Basic Hourly Rates	Fringe Benefits Payments			
		H & W	Pensions	Vacation	Education and/or Appr. Tr.
ASBESTOS WORKERS	$21.60	.55	1.30		.10
BOILERMAKERS	18.22	1.075	1.00	1.00	.03
BRICKLAYERS; Blocklayers; Stonemasons	17.18	.90	2.45		.09
CARPENTERS:					
Area 1:					
Carpenters	16.85	.90	2.00		.10
Power actuated tool operator; DeWalt or similar type saw operator; Marlite and Acoustical; fire or Floor Repair work applicators; Nailing Machine Operator; Saw Filer	17.25	.90	2.00		.10
Millwrights	17.40	.90	2.00		.10
Piledrivermen	16.12	.90	2.00		.10
Areas 2 and 3:					
Journeyman Carpenters	16.51	.90	2.00		.25
Acoustical and Marlite Applicators; Floor Workers; Radical Air Saw Operators; Fire and Floor Workers	16.89	.90	2.00		.25
Millwrights	17.04	.90	2.00		.25
Piledrivermen	16.12	.90	2.00		.25
CEMENT MASONS:					
Area 1	15.63	.80	2.80		.15
Area 2	15.38	.80	2.80		.15
CULINARY WORKERS:					
Working Camp Manager; Head Cook; Baker; Cook/Baker	14.31	.50	2.25		.04
General Helper; Kitchen Helper	12.31	.50	2.25		.04
Cook	13.95	.50	2.25		.04
ELECTRICIANS:					
Electricians; Technicians	18.95	1.05	3%+3.00		.15
Cable Splicers	20.70	1.05	3%+3.00		.15
Residential Construction	10.25	1.05			.05

DECISION NO. AK79-5105 Page 2

	Basic Hourly Rates	Fringe Benefits Payments			
		H & W	Pensions	Vacation	Education and/or Appr. Tr.
ELEVATOR CONSTRUCTORS	$19.97	.895	3%+.69	a	.03
ELEVATOR CONSTRUCTORS' HELPERS	13.98	.895	3%+.69	a	.03
ELEVATOR CONSTRUCTORS' HELPERS (PROB.)	9.985				
GLAZIERS:					
Area 1	16.30	.70	1.00	1.00	
Areas 2 and 3	17.04	.70	1.00		.10
IRONWORKERS:					
Bender Operator; Bridge; Fence Erector; Machinery Mover; Ornamental; Reinforcing; Sheeter; Structural	17.85	1.05	3.00		.30
LATHERS	18.11	.80		1.08	.04
LINE CONSTRUCTION:					
Groundmen	16.95	1.05	3%+3.00		.15
Equipment Operators; Linemen; Technicians	18.95	1.05	3%+3.00		.15
Cable Splicers	20.70	1.05	3%+3.00		.15
Powderman	16.95	1.05	3%+3.00		.15
MARBLE SETTERS; Terrazzo Workers	17.18	.90	2.45		.09
PAINTERS:					
Area 1:					
Zone 1: Within a 10 mile radius of the Fairbanks Post Office including Ft. Wainwright					
Zone 2: Beyond 10 miles and up to 40 miles radius of the Fairbanks Post Office including Eielson Air Force Base and all the Sites within this territory					
Zone 3: Beyond 40 miles radius of the Fairbanks Post Office					
Zones 1 and 3:					
Brush; Roller; Paper; Vinyl	18.15	.70	2.00		.10
Utilidor; Swing; Sign; Bosun	18.40	.70	2.00		.10
Structural Steel, Pot Tender, Sandblaster	18.65	.70	2.00		.10

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	Basic Hourly Rates	Fringe Benefits Payments			
		H & W	Pensions	Vacation	Education and/or Appr. Tr.
PAINTERS: (Cont'd)					
Epoxy; Tar; Finish Metal Spray	$19.15	.70	$ 2.00		.10
Spray Painter	20.25	.70	2.00		.10
Tapers, Hands	18.42	.70	2.00		.10
Tapers, Machine	19.42	.70	2.00		.10
Buffer Operator	18.68	.70	2.00		.10
Hardwood Finishers	18.90	.70	2.00		.10
Zone 2:					
Brush, Roller, Paper and Vinyl Hangers	19.00	.70	2.00		.10
Utilidor, Swing, Bosun, Sign	19.25	.70	2.00		.10
Structural Steel; Pot Tender-Sandblaster	19.35	.70	2.00		.10
Epoxy, Tar, Finish Metal Spray	20.00	.70	2.00		.10
Spray Painter	21.10	.70	2.00		.10
Tapers, Hand	19.27	.70	2.00		.10
Tapers, Machine	20.27	.70	2.00		.10
Buffer Operators	19.53	.70	2.00		.10
Hardwood Operators	19.53	.70	2.00		.10
Zones 1, 2 and 3:					
Height Pay: All work on any form of Scaffolding or Staging over 40 ft. will be paid $.25 more per hour and for every additional 20 ft. $.25 more per hour will be paid to the employee. The height of work shall be determined from the ground to the point of hook-up.					
AREAS 2 and 3:					
Brush, roller, sign	18.00	.70	2.00		.20
Paper and vinyl, Swing stage, Taper/Drywall, Structural Steel	18.40	.70	2.00		.20
Spray, Sandblast, Pot Tender	18.60	.70	2.00		.20
Epoxy and Tar Applicator	19.00	.70	2.00		.20
Steeple Jack and Tower	19.80	.70	2.00		.20

	Basic Hourly Rates	Fringe Benefits Payments			
		H & W	Pensions	Vacation	Education and/or Appr. Tr.
PAINTERS: (Cont'd)					
Height Pay: All classifications, with the exception of steeple jacks and tower painters, a $.25 hourly premium shall be paid for swing stage work on a structure with height in excess of 40 ft. an additional $.25 per hourly height pay shall be paid for each additional 50 ft. thereafter. Height pay on all towers and steeplejack work shall start at the 150 ft. level. $.50 per hour above the scale shall be paid for each additional 100 ft.					
PLASTERERS:					
Area 1	$16.75	.80	2.80		.15
Area 2	16.50	.80	2.80		.15
PLUMBERS; Steamfitters:					
Area 1	18.77	.95	2.10		.45
Area 2	18.65	.73	1.90		.15
Area 3	16.50	1.00	1.70		.10
Residential Construction:					
Area 1	14.32	.73	1.40		.15
ROOFERS:					
Area 1	15.60	1.40	2.20		.05
Areas 2 and 3	15.30	1.40	2.20		.05
SHEET METAL WORKERS:					
Area 1	19.54	.68	1.33		.18
Areas 2 and 3	19.21	.79	1.22		.21
SOFT FLOOR LAYERS:					
Area 1:					
Zones 1 and 3	18.17	.70	2.00		.15
Zone 2	19.02	.70	2.00		.15
Areas 2 and 3	18.90	.77	1.00		.20
SPRINKLER FITTERS	17.01	.65	.95		.08
SURVEY CREWS:					
Party Chief	15.29	4.74	.05		.20
Instrumentman	14.05	4.74	.05		.20
Head Chainman	13.50	4.74	.05		.20
Stakehop	13.50	4.74	.05		.20
Rear Chainman	13.07	4.74	.05		.20

	Basic Hourly Rates	Fringe Benefits Payments			
		H & W	Pensions	Vacation	Education and/or Appr. Tr.
TERRAZZO WORKERS' and TILE SETTERS' HELPERS	$14.33	.90	$ 2.45		.09
TILE SETTERS	16.51	.90	2.45		.09

RIGGERS; WELDER: Receive rates for craft performing operation to which rigging or welding is incidental.

PAID HOLIDAYS:
A-New Year's Day; B-Memorial Day; C-Independence Day; D-Labor Day; E-Thanksgiving Day; F-Christmas Day.

FOOTNOTE:
a. Employer contributes 8% of the basic hourly rate for over 5 years' service and 6% of the basic hourly rate for 6 months to 5 years of service as Vacation Pay Credit. Six Paid Holidays: A through F.

LABORERS

	Basic Hourly Rates	H & W	Pensions	Vacation	Education and/or Appr. Tr.
Group 1	$14.17	.80	$ 2.75		.20
Group 2	14.42	.80	2.75		.20
Group 3	14.72	.80	2.75		.20
Group 4	14.92	.80	2.75		.20
Group 5	15.12	.80	2.75		.20
Group 6	15.34	.80	2.75		.20

LABORERS

Group 1: Window Cleaner; Building Laborers; Carpenter Tender; Material Handlers; Hook Tenders; Signal Man/Dumpman; Flagman; Sandblast, Pot tender; Saw Tenders; Pitman; Utiliwalk and Utilidor; Ditch Diggers; Monolithic Workers (sewers); Dryer Man (bridges, dams); Topman and Bull Gang (tunnel and Shaft); Brakeman (tunnel or shafts); General Laborer; Sandblaster; Oil Spill Clean Up

Group 2: Base and Floor Machine Man; Pneumatic or Power Tools; Compactor; Rigger; Hydroseeder Nozzleman; Choke Setter; Tank Cleaners; Stake Hopper; Grade Men; Concrete Labor (including Vibratorman, Power Buggy and Concrete power saw, curb and gutter man); Asphalt Worker (including plant crew); Tar Rubber - add $.25 per hour to scale; Steam Point or Water Jet Operator; Mucker and Laborers (tunnel and shaft); Nippers (tunnel or shafts); Monolithic Workers

Group 3: Jackhammer or Pavement Breakers; Catylist; Epoxie (tank cleaning); Chuck Tender (Wagon and Track Drills); Mason Tender and Mud Mixer (sewers); Insulators (foam gun operator)

Group 4: Bricklayers; Cement Finishers; Gunnite Operator; Burning and Cutting Torch; Pipelayer (culvert and multiplate); Plasterers Tenders; High Scaler; Sloper (over 20 ft.); Chain Saw and Power Saws (brush cutter); Rakers (asphalt crew); Tar rubber - add $.25 per hour to scale; Cement or Lime Dumper or Handler (sack or bulk); Pipelayers (sewer or water mains); Sewer Caulkers; Timberman (sewer); Pipe Builder (stove pipe crews); Sandblaster (bridges and dams); Monolithic workers; Powderman Helper

Group 5: Timber Faller; Wagon Driller; Air Trac Wagon Driller; Chain Saw Filer; Miners, tunnels or shafts

Group 6: High Rigger and Tree Topper; Powderman (tunnels or shafts - add $.30 per hour); Miners, Shafts and Raises (tunnel or shafts); Toxic Pay, add $.35 per hour; Scaffold Pay, add $.15 per hour over 10 ft., $.30 per hour over 40 ft. based on free-fall distance

POWER EQUIPMENT OPERATORS	Basic Hourly Rates	Fringe Benefits Payments			
		H & W	Pensions	Vacation	Education and/or Appr. Tr.
Group 1	$16.00	$1.10	$ 3.00		.15
Group 1-A	17.13	1.10	3.00		.15
Group 1-B	15.70	1.10	3.00		.15
Group 2	15.51	1.10	3.00		.15
Group 2-A	15.11	1.10	3.00		.15
Group 3	15.05	1.10	3.00		.15
Group 3-A	14.65	1.10	3.00		.15
Group 4	14.03	1.10	3.00		.15

Group 1: "A" Frame Trucks, Helicopters; Transporters; Deck Winches: double power drum; Backfiller; Batch Plant Operator: batch and mixer over 200 yds. per hour; Belcrete with power pack and similar conveyors; Bending Machine; Bulldozer, Quad or HD 41 or similar; Cableways and Highlines, 3 yards and under; Cleaning Machine; Coating Machine; Cranes: Shovels, Backhoes, Dragline, Clamshells (Crawler, truck type, rubber-tired, creter, floating (locomotive, whirley, either 3 yds. or under or 150" boom, including jibs and under, Or 45 tons and under - Hydralifts or transporters, all track or truck type - Hyster Cat Cranes and attachments, Sidebooms under 45 tons); Derricks; Ditching or Trenching Machine (16" or over); Drilling Machines, Core, Cable, Rotary and Exploration; Hydro Ax and similar; Loaders (Forklifts with power boom and swing attachment; Overhead and Front End, 2½ yds. through 4 yds.; Loaders with forks or pipe clamps); Mechanics, Welders, Bodyman; Mixers (mobile type with hoist combination); Motor Patrol Grader (over Model 14 or similar types); Mucking Machines (mole, tunnel drill and/or shield); Operator on Dredges; Piledriver Engineers, L. B. Foster, Puller or similar, paving breaker; Power Plant, turbin operator, 300 K.W. and over (power plants or combination of power units over 300 K.W. on highway or airfield construction or quarry operations); Sauerman-Bagley; Scrapers, Tournapulls, Caterpillar, Euclid and similar type equipment over 25 yds. through 40 yds.; Shot Blast Machine; Sub Grader (Gurries, C.M.I. and C.M.I. Roto Mills and similar types); Tack Tractor; Truck mounted concrete pump; Wate Kote Machine; Hover Craft, Flex Craft, Loadmaster, Air Cushion, Terrain Vehicle, Helicopter Transporter, Cableways, Rollingon, Dredge Barge-cable, Highline or Cable Car, Camp Maintenance Engineer, Boat Coxswains

POWER EQUIPMENT OPERATORS (Cont'd)

Group 1-A: Cableways and Highlines, over 3 yds.; Cranes: shovels, backhoes, draglines, clamshells (crawler, truck type, floating locomotive, whirley, either over 3 yds. or over 150' boom, including jibs or over 45 tons; Tower cranes, Pecco, Lorain, Bucyrus and similar types; Hyster cat cranes and attachments, sidebooms 45 tons and over; Loaders over 4 yds.; Motor Patrol Grader (finish: when finishing to final grade, red, blue or similar hubs); Power Plants (1000 k.w. and over); Slip form paver, C.M.I. and similar types; Tournapulls, caterpillar, euclid scrapers and similar type equipment over 40 yds.

Group 1-B: Asphalt Roller; Bulldozers; Crushers; Finishing Machine Operator, concrete paving, sidewalk, curb and gutter machine; Loaders, elevating belt type, euclid and similar types; Motor Patrol grader 14 and under; Scrapers 25 yds. and under; Spreaders: Blaw Knox, Cedarapids, Barber Greene, Screed, Slurry Machine; Nodwell Sno Cat

Group 2: Batch Plant Operator: batch and mixer 200 yds. per hour and under; Cement Hogs and concrete pump operators; Compressors: Steel erection, including sand blasting, painting of same, piledriving; Conveyors (except as listed in group 1); Hoists on steel erection, Towermobiles and air tuggers; Loaders, elevating grader, dumor and similar; Locomotives: Rod and geared engines; Mixers Screening, washing plant; Sideboom (cradling rock drill); Skidder; Trenching Machine under 16"

Group 2-A: Service Oiler, Journeyman; Boiler-Fireman

Group 3: "A" Frame Trucks, Deck Winches; Single power drum; Bombardier (tack or tow rig); Boring Machine; Brooms, power Wayne, Saginaw and similar types; Bump Cutter (Concut, Christenson or similar types; Compressors, excavating; Farm Tractor; Forklift, industrial type; Gin Truck or winch truck with poles when used for hoisting; Hoists, air tuggers, elevators; Loaders (Elevating-Athey, Barber Greene and similar types; Forklifts or lumber carrier (on construction job sites); Forklifts with tower; Overhead and front end, under 2½ yds.); Locomotives: Dinkey (air, steam, gas and electric) speeders; Mechanics, light duty; Mixers: concrete mixers and batch, 200 yds. per hour and under; Oil, Blower Distributors; Pipeline Dream; Posthole diggers, mechanical; Pot Fireman (power agitated); Power Plant, turbine operator, under 300 k.w.; Pumps: Fuller Kenyon, Water; Rollers, Tampers, Vibrators, all except asphalt Saws, concrete; Straightening Machine; Tow Tractor;

Group 3-A: Grade Checker, Stake Hopper; Rig Oiler, over 45 ton, over 3 yards, or over 150' boom; Drill Helper

Group 4: Rig Oiler (Advances to Group 3-A if over 45 tons or 3 yards or 150' boom); Parts and Equipment Coordinator; Swamper (on trenching machines or shovel type equipment); Spotter; Steam Cleaner

	Basic Hourly Rates	Fringe Benefits Payments			
		H & W	Pensions	Vacation	Education and/or Appr. Tr.
TRUCK DRIVERS					
Group 1	$14.06	$1.01	$ 3.00		.10
Group 2	14.12	1.01	3.00		.10
Group 3	13.59	1.01	3.00		.10
Group 4	14.44	1.01	3.00		.10
Group 5	14.84	1.01	3.00		.10
Group 6	15.15	1.01	3.00		.10
Group 7	15.44	1.01	3.00		.10
Group 8	15.75	1.01	3.00		.10
Group 9	16.06	1.01	3.00		.10
Group 10	16.37	1.01	3.00		.10
Group 11	16.88	1.01	3.00		.10
Group 12	16.99	1.01	3.00		.10
Group 13	17.29	1.01	3.00		.10
Group 14	14.58	1.01	3.00		.10
Group 15	13.31	1.01	3.00		.10
Group 16	13.74	1.01	3.00		.10
Group 17	14.42	1.01	3.00		.10
Group 18	14.68	1.01	3.00		.10
Group 19	14.95	1.01	3.00		.10
Group 20	15.22	1.01	3.00		.10
Group 21	15.39	1.01	3.00		.10
Group 22	14.36	1.01	3.00		.10
Group 23	13.48	1.01	3.00		.10

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TRUCK DRIVERS

Group 1: Buggymobile; Hyster Operators (handling bulk aggregate), Lumber Carrier

Group 2: Semi or truck and trailer; Dumpsters; Batch Trucks over 5 yards; Dump Trucks, over 5 yards up to and including 10 yards; Fuel Truck; Greasers of Grease Trucks; Flat Beds, dual rear axle; Ready Mix: Over 3 yards up to and including 5 yards; Water Wagon, semi; Water wagon, dual axle Winch Trucks; Flat Bed including "A" Frame manufactures rating over 5 tons; Bull Lift and Fork lifts over 5 tons; Front End Loader with Forks; Partsman and outside expeditor; Bus Operator, over 30 passengers, Track Truck Equipment; (All Terrain Vehicles, Form Distributor Truck, double axle; Loadmaster (air and water operations); Air cushion or similar type vehicle; Fire Trucks - double axle; Vacuum Truck; Vacuum Truck Sweepers - dual axle; Riggers; Combination Truck - fuel and grease; Greasers; Hydro Seeders - dual axle;

Group 3: Batch Truck up to and including 5 yards; Dump Truck (including Rockbuggy and Trucks with pumps) up to and including 5 yards; Flat beds, single rear axle; Water wagon, single axle Winch Truck, Flat bed including "A" Frame manufactured rating 5 tons and under; Bull Lifts and Fork lifts up to and including 5 tons; Bus Operator, up to 30 passengers; Form Distributor Truck, single axle, Hydro Seeder, single axle, team drivers (horses, mules and similar equipment); Vacuum trucks and Truck Sweepers single axle; Fire Trucks - single axle; Ambulance

Group 4: Dump Trucks over 10 yards up to and including 20 yards; Tire service Man; Lowbed heavy-duty Trailer; Oiler distributor drivers; Ready Mix: Compactor (when pulled by rubber-tired equipment); Lowboys including attached trailers and jeeps

Group 5: Dump Trucks over 20 yards up to and including 30 yards

Group 6: Dump Trucks over 30 yards up to and including 40 yards

Group 7: Dump Trucks over 40 yards up to and including 50 yards

Group 8: Dump trucks over 50 yards up to and including 60 yards

Group 9: Dump trucks over 60 yards up to and including 70 yards

Group 10: Dump Trucks over 70 yards up to and including 80 yards

Group 11: Dump Trucks over 80 yards up to and including 90 yards

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TRUCK DRIVERS (Cont'd)

Group 12: Dump Trucks over 90 yards up to and including 100 yards

Group 13: Dump Trucks over 100 yards (above scales to be paid on actual water level measurements)

Group 14: Turn-O-Wagoner DW-10 when not self-loading

Group 15: Gravel Spreader Box Operator on Truck; Pickup (pilot Cats all light-duty vehicles); Warehouseman Class 2: Farm type rubber-tired tractor (material hauling or pulling wagons); Swampers

Group 16: Ready Mix: Up to and including 3 yards

Group 17: Ready Mix: Over 5 yards up to and including 7 yards

Group 18: Ready Mix: Over 7 yards up to and including 9 yards

Group 19: Ready Mix: Over 9 yards up to and including 12 yards

Group 20: Ready Mix: 13 yards and over

Group 21: Ready Mix, semi with double bowl mixer

Group 22: Water Wagon, when pulled by Euclid or similar type equipment

Group 23: Warehouse - Class 1

DREDGING	Basic Hourly Rates	Fringe Benefits Payments			
		H & W	Pensions	Vacation	Education and/or Appr. Tr.
Group 1: Assistant Mate (deckhand)	$14.03	$1.10	$ 3.00		
Group 2: Fireman; Oiler	15.05	1.10	3.00		
Group 3: Assistant Engineer (Electric, Diesel, Steam or Booster Pump); Assistant Engineer (Electric Generator Operator for Primary Pump, Power Barge or Dredge), Mates and Boatman, Engineer Welder, Craneman	15.51	1.10	3.00		
Group 4: Leverman (Hydraulic)	16.00	1.10	3.00		
Group 5: Leverman Dipper (5 yards and under, over 5 yards)	17.13	1.10	3.00		

STATE: Arizona COUNTY: Statewide
DECISION NUMBER: AZ79-5100 DATE: Date of Publication
Supersedes Decision No. AZ78-5114 dated August 11, 1978, in 43 FR 35226.
DESCRIPTION OF WORK: Building Construction (does not include single family homes and garden type apartments up to and including 4 stories), heavy and highway construction.

	Basic Hourly Rates	Fringe Benefits Payments			
		H & W	Pensions	Vacation	Education and/or Appr. Tr.
ASBESTOS WORKERS	$11.94	.50	$ 1.20		.02
BOILERMAKERS	14.36	1.075	1.00	1.00	.03
BRICKLAYERS; (Phoenix Area)					
Bricklayers; Manhole Builders; Stonemasons:					
Zone A: 0-25 miles from the City Hall in Phoenix Flagstaff and Yuma	11.77	.65	.90		.09
Zone B: 25-40 miles from the City Hall in Phoenix; and Williams AFB	12.71	.65	.90		.09
Zone C: 40-70 miles from the City Hall in Phoenix	13.30	.65	.90		.09
Zone D: 70-100 miles from City Hall in Phoenix	13.89	.65	.90		.09
Zone E: 100-200 miles from the City Hall in Phoenix	14.36	.65	.90		.09
Zone F: 200 miles and over from the City Hall in Phoenix	15.30	.65	.90		.09
BRICKLAYERS: (Tucson Area)					
Bricklayers; Stonemasons:					
Zone A: 0-15 miles from Tucson City limits	11.22	1.00	.90		.06
Zone B: Over 15 miles to 30 miles from Tucson City limits	11.59	1.00	.90		.06
Zone C: Over 30 miles to 40 miles from Tucson City limits	11.96	1.00	.90		.06
Zone D: Over 40 miles from Tucson City limits	12.72	1.00	.90		.06
Manhole Builders:					
Zone A: 0-15 miles from Tucson City limits	11.47	1.00	.90		.06
Zone B: Over 15 miles to 30 miles from Tucson City limits	11.84	1.00	.90		.06
Zone C: Over 30 miles to 40 miles from Tucson City limits	12.21	1.00	.90		.06
Zone D: Over 40 miles from Tucson City limits	12.97	1.00	.90		.06

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	Basic Hourly Rates	Fringe Benefits Payments H & W	Pensions	Vacation	Education and/or Appr. Tr.
CARPENTERS:					
Central and Southern Areas:					
Carpenters; Drywall Applicators; Saw Filers; Shingler	$ 10.485	$ 1.045	$ 1.055		.05
Floorlayers (finish); Piledrivermen	10.77	1.045	1.055		.05
Millwrights	10.90	1.045	1.055		.05
Northern Area:					
Carpenters; Drywall Applicator; Saw Filer; Shingler	12.36	1.045	1.055		.05
Floorlayers (finish); Piledrivermen	12.645	1.045	1.055		.05
Millwrights	12.775	1.045	1.055		.05
CEMENT MASONS:					
Apache, Coconino, Gila, Mohave, Navajo, Yavapai, Yuma and the Northern portions of Graham, Greenlee, Maricopa and Pinal Counties					
Central and Southern Areas:					
Cement Masons	10.21	.95	1.30		.05
Concrete troweling machine; Sawing and scoring machine; Curb and gutter machine	10.37	.95	1.30		.05
Northern Area:					
Cement Masons	12.085	.95	1.30		.05
Concrete troweling machine; Sawing and scoring machine; Curb and gutter machine	12.245	.95	1.30		.05
Cochise, Pima, Santa Cruz and the southern portions of Graham, Greenlee, Maricopa and Pinal Counties					
Central and Southern Areas:					
Cement Masons	10.22	.85	.85		.05
Concrete troweling machine; Sawing and scoring machine; Curb and gutter machine	10.385	.85	.85		.05
DRYWALL:					
From Court House in Pheonix, Mesa, including Luke and Williams Air Force Bases					
Tapers:					
Zone A: 0-40 miles	10.21	.59	.50		.07
Zone B: 41-60 miles	11.21	.59	.50		.07

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	Basic Hourly Rates	Fringe Benefits Payments H & W	Pensions	Vacation	Education and/or Appr. Tr.
DRYWALL: (Cont'd)					
Tapers: (Cont'd)					
Zone C: 61 miles and over	$12.46	.59	.50		.07
Texture Spraymen:					
Zone A: 0-40 miles	9.81	.59	.50		.07
Zone B: 41-60 miles	10.81	.59	.50		.07
Zone C: 61 miles and over	12.06	.59	.50		.07
ELECTRICIANS: (Flagstaff Area)					
Zone A: In the City of Flagstaff, that area lying in a square extending 20 miles north-south, east and west of the Post Office; For Williams, Winslow and Sedona that area covering a square extending 5 miles north-south, east and west of the Post Office in each town	12.80	.69	3%+.88		1/2%
Zone B: All territorial jurisdiction allotted outside of Zone A	15.35	.96	3%+.88		1/2%
ELECTRICIANS: (Gallup Area - Apache County north of Hwy. #66)					
Electricians	14.10	.60	3%+.70		1/2%
Cable Splicers	14.69	.60	3%+.70		1/2%
ELECTRICIANS: (Globe-Miami Area)					
Zone A: The area within 16 road miles beginning where the Southern Pacific Railroad intersects Highway 60-70 at Kaiser Crossing)					
Electricians	13.93	.60	11%		1%
Cable Splicers	14.18	.60	11%		1%
Zone B: 16-28 miles from above-mentioned base point:					
Electricians	14.67	.60	11%		1/2%
Cable Splicers	14.92	.60	11%		1/2%
Zone C: 28-46 miles from above-mentioned base point					
Electricians	15.30	.60	11%		1/2%
Cable Splicers	15.55	.60	11%		1/2%
Zone D: 46 miles and over from above-mentioned base point					
Electricians	16.05	.60	11%		1/2%
Cable Splicers	16.30	.60	11%		1/2%

	Basic Hourly Rates	Fringe Benefits Payments			
		H & W	Pensions	Vacation	Education and/or Appr. Tr.
ELECTRICIANS: (Phoenix Area)					
Zone A: Beginning at the northeast corner, a line extending southward on Bush Highway to McKellips Road; a line extending east on McKellips Road to a point one mile east of the intersection of State Highway 88 and U. S. 60 and 70 near Apache Junction; Southward to Baseline Road; west on Baseline Road to the intersection of Baseline Road and Ellsworth Road; South on Ellsworth Road to Hunt Highway; west on Hunt Highway to Powers Road; a line extending south on Powers Road five miles, then extending straight west to a point five miles west of Interstate 10, then northwest on a line parallel with Interstate 10 to intersect with Pecos Road, west on Pecos Road to intersect with Cotton Lane, North on Cotton Lane to Beloat Road. West on Beloat Road to Airport Road. North on Airport Road in a straight line to intersect Waddell Road. East on Waddell Road to intersect with Cotton Lane, North on Cotton Lane to Deer Valley Drive and east on Deer Valley Drive to intersect with Bush Highway including Luke and Williams Air Force Bases.	$ 13.55	.96	3%+.88		3/4%

	Basic Hourly Rates	Fringe Benefits Payments			
		H & W	Pensions	Vacation	Education and/or Appr. Tr.
ELECTRICIANS: (Cont'd)					
Zone B: Area outside of Zone A and bounded by a line formed by measuring sixteen (16) road miles from the outer boundaries of an area enclosed by the following boundaries: Power Road on the east, from Hunt Highway on the south to one mile south of Pinnacle Peak Road on the north; One mile south of Pinnacle Peak Road to Cotton Lane on the west; Cotton Lane to Pecos Road on the south. Pecos Road to Price Road and from Price Road to Hunt Highway on the south. Hunt Highway to Powers Road on the east	$ 15.55	.96	3%+.88		3/4%
Zone C: Outside edge of Zone B and extended to the outside limits of the Union's jurisdiction	16.55	.96	3%+.88		3/4%
ELECTRICIANS: (Kingman)					
Zone A: The area within the 16th road mile from the City Hall					
Electricians	12.04	.96	1%+.70		1/2%
Cable Splicers	12.64	.96	1%+.70		1/2%
Zone B: from the 16th road mile and extend up to and including the 32nd road mile					
Electricians	14.15	.96	1%+.70		1/2%
Cable Splicers	14.85	.96	1%+.70		1/2%
Zone C: From the 32nd road mile extending up to the outside limits of the union's jurisdiction					
Electricians	15.23	.96	%+.70		1/2%
Cable Splicers	15.99	.96	%+.70		1/2%
ELECTRICIANS: (Prescott)					
Zone A: The area within 20 road miles from the City Hall					
Electricians	12.04	.96	1%+.70		1/2%
Cable Splicers	12.64	.96	1%+.70		1/2%

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	Basic Hourly Rates	Fringe Benefits Payments			
		H & W	Pensions	Vacation	Education and/or Appr. Tr.
ELECTRICIANS: (Prescott) (Cont'd)					
Zone B: From the 20th road mile extending up to and including the 32nd road mile					
Electricians	$14.15	.96	1%+.70		1/2%
Cable Splicers	14.85	.96	1%+.70		1/2%
Zone C: From the 32nd road mile extending to the outside limits of the union's jurisdiction					
Electricians	15.23	.96	1%+.70		1/2%
Cable Splicers	15.99	.96	1%+.70		1/2%
ELECTRICIANS: (Tucson and Yuma Area)					
Zone A: Area within 16 road miles from the City Hall in Tucson, Yuma, Douglas; Area within 16 road miles from center of Town in Nogales, Sierra Vista; Area within the boundaries of the incorporated City limits of Parker, plus an area extending from the south City limits of Parker in a northeasterly direction to mile post No. 150 located on State Hwy. 95, north-east of Parker from the Colorado River on the west, an area mile wide paralleling the Colorado River					
Electricians	13.93	.60	11%		1/2%
Cable Splicers	14.18	.60	11%		1/2%
Zone B: Area from the outer limits of Zone A extending up to and including 12 road miles, excluding Douglas Area					
Electricians	14.67	.60	11%		1/2%
Cable Splicers	14.92	.60	11%		1/2%
Zone C: Area from the outer 1 limits of Zone B extending up to and including 18 road miles, excluding Douglas Area					
Electricians	15.30	.60	11%		1/2%
Cable Splicers	15.55	.60	11%		1/2%

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	Basic Hourly Rates	Fringe Benefits Payments			
		H & W	Pensions	Vacation	Education and/or Appr. Tr.
ELECTRICIANS: (Tucson and Yuma Areas) (Cont'd)					
Zone D: Area outside of Zone C; in Douglas, the area outside of Zone A					
Electricians	$16.05	.60	11%		1/2%
Cable Splicers	16.30	.60	11%		1/2%
ELEVATOR CONSTRUCTORS	11.775	.745	.56	3%+a	.025
ELEVATOR CONSTRUCTORS' HELPERS	70%JR	.745	.56	3%+a	.025
ELEVATOR CONSTRUCTORS' HELPERS (PROB.)	50%JR				
GLAZIERS	11.34	.85	.30		.01
IRONWORKERS:					
Central and Southern Areas	12.20	1.34	2.47		.11
Northern Area	14.33	1.34	2.57		.11
LATHERS: (Tucson Area)					
Zone A: 0-30 miles from Tucson	10.88	.50	.40		
Zone B: 30-40 miles from Tucson	11.38	.50	.40		
Zone C: 40-50 miles from Tucson	11.63	.50	.40		
Zone D: Area outside Zone C	12.38	.50	.40		
LINE CONSTRUCTION:					
Zone 1: Phoenix and Tucson 30 miles radius from center of town:					
Groundmen	9.97	8%	3%+9%		1/2%
Equipment Operator; Powdermen; Mechanics	11.47	8%	3%+9%		1/2%
Linemen; Technicians; Crane Operators	12.90	8%	3%+9%		1/2%
Cable splicers	13.30	8%	3%+9%		1/2%
Zone 1-A: Douglas, Flagstaff, Globe, Kingman, Prescott and Yuma 10 mile radius from center of town:					
Groundmen	10.81	8%	3%+9%		1/2%
Equipment Operators; Powdermen; Mechanics	12.24	8%	3%+9%		1/2%
Linemen; Technicians; Crane Operators	13.72	8%	3%+9%		1/2%
Cable Splicers	14.20	8%	3%+9%		1/2%
Zone 2: Other Areas:					
Groundmen	11.59	8%	3%+9%		1/2%
Equipment Operators; Powdermen; Mechanics	13.03	8%	3%+9%		1/2%
Linemen; Technicians; Crane Operators	14.52	8%	3%+9%		1/2%
Cable Splicers	14.95	8%	3%+9%		1/2%

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	Basic Hourly Rates	Fringe Benefits Payments			
		H & W	Pensions	Vacation	Education and/or Appr. Tr.
MARBLE WORKERS:					
Phoenix Area	$ 10.99	.65	.70		.19
PAINTERS: (Flagstaff Area)					
Zone A: From Flagstaff Court House to 20 miles					
Brush; Soft Floor Layers	10.70	.90	.60		.20
Brush, steel and bridge	11.20	.90	.60		.20
Spray	11.15	.90	.60		.20
Spray, steel and bridge	11.70	.90	.60		.20
Zone B: 20-35 miles from Court House in Flagstaff					
Brush; Soft Floor Layers	11.45	.90	.60		.20
Brush, steel and bridge	11.95	.90	.60		.20
Spray	11.85	.90	.60		.20
Spray, steel and bridge	12.45	.90	.60		.20
Zone C: 35-80 miles from Court House in Flagstaff					
Brush; Soft Floor layers	12.45	.90	.60		.20
Brush, steel and bridge	12.95	.90	.60		.20
Spray	12.85	.90	.60		.20
Spray, steel and bridge	13.45	.90	.60		.20
Zone D: 80 miles and over from Court House in Flagstaff					
Brush; Soft Floor Layers	12.70	.90	.60		.20
Brush, steel and bridge	13.20	.90	.60		.20
Spray	13.10	.90	.60		.20
Spray, steel and bridge	13.70	.90	.60		.20
PAINTERS: (Phoenix Area)					
Zone A: 0-40 miles from Court House in Phoenix, Mesa and including Luke and Williams Air Force Bases:					
Brush and Roller; Sandblaster (Nozzleman); Sandblast (pot Tender)	10.50	.60	.40		.08
Spray	10.75	.60	.40		.08
Creosote Applier	10.83	.60	.40		.08
Swing Stage:					
Brush, Sandblaster	10.90	.60	.40		.08
Spray	11.15	.60	.40		.08
Steeplejack	11.36	.60	.40		.08
Steel and bridge, Brush; Steel Sandblaster	11.43	.60	.40		.088
Steel and bridge, spray	11.63	.60	.40		.08

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	Basic Hourly Rates	Fringe Benefits Payments			
		H & W	Pensions	Vacation	Education and/or Appr. Tr.
PAINTERS: (Phoenix Area) (Cont'd)					
Zone B: 41-60 miles from Court House in Phoenix					
Brush and Roller; Sandblaster (Nozzleman); Sandblaster (pot tender)	$ 11.50	.60	.40		.08
Spray	11.75	.60	.40		.08
Creosote Applier	11.83	.60	.40		.08
Swing Stage:					
Brush, Sandblaster	11.90	.60	.40		.08
Spray	12.15	.60	.40		.08
Steeplejack	12.36	.60	.40		.08
Steel and bridge, Brush; Steel Sandblaster	12.43	.60	.40		.08
Steel and bridge, spray	12.63	.60	.40		.08
Zone C: 60 miles and over from Court House in Phoenix					
Brush and Roller; Sandblaster (Nozzleman); Sandblaster (Pot tender)	12.75	.60	.40		.08
Spray	13.00	.60	.40		.08
Creosote Applier	13.08	.60	.40		.08
Swing Stage:					
Brush, Sandblaster	13.15	.60	.40		.08
Spray	13.40	.60	.40		.08
Steeplejack	13.61	.60	.40		.08
Steel and bridge, brush; Steel Sandblaster	13.68	.60	.40		.08
Steel and bridge, spray	13.88	.60	.40		.08
PAINTERS: (Tucson and Yuma Areas)					
Zone A: 0-30 miles from Stone and Congress in Tucson and from the County Courthouse in Yuma)					
Brush	9.43	.67	.40		.04
Spray and Sandblasters	9.93	.67	.40		.04
Swing Stage, under 40 ft.:					
Brush	9.73	.67	.40		.04
Spray	10.23	.67	.40		.04
Swing Stage, over 40 ft.:					
Brush	10.18	.67	.40		.04
Spray	10.68	.67	.40		.04
Structural Steel and Tanks:					
Brush	10.43	.67	.40		.04
Spray and Sandblasters	10.93	.67	.40		.04

	Basic Hourly Rates	Fringe Benefits Payments			
		H & W	Pensions	Vacation	Education and/or Appr. Tr.
PAINTERS: (Tucson and Yuma Areas) (Cont'd)					
Zone B: 31-40 miles from Stone and Congress in Tucson and from the County Courthouse in Yuma					
Brush	$ 10.18	.67	.40		.04
Spray and Sandblasters	10.68	.67	.40		.04
Swing Stage, under 40 ft.:					
Brush	10.48	.67	.40		.04
Spray	10.98	.67	.40		.04
Swing Stage, over 40 ft.:					
Brush	10.93	.67	.40		.04
Spray	11.43	.67	.40		.04
Structural Steel and Tanks:					
Brush	11.18	.67	.40		.04
Spray and Sandblasters	11.68	.67	.40		.04
Zone C: 41-50 miles from Stone and Congress in Tucson and from the County Courthouse in Yuma					
Brush	10.93	.67	.40		.04
Spray	11.43	.67	.40		.04
Swing Stage, under 40 ft.:					
Brush	11.23	.67	.40		.04
Spray	11.73	.67	.40		.04
Swing Stage, over 40 ft.:					
Brush	11.68	.67	.40		.04
Spray	12.18	.67	.40		.04
Structural Steel and Tanks:					
Brush	11.93	.67	.40		.04
Spray and Sandblasters	12.43	.67	.40		.04
Zone D: 51 miles and over from Stone and Congress in Tucson and from the County Courthouse in Yuma					
Brush	11.43	.67	.40		.04
Spray	11.93	.67	.40		.04
Swing Stage, under 40 ft.:					
Brush	11.73	.67	.40		.04
Spray	12.23	.67	.40		.04
Swing Stage, over 40 ft.:					
Brush	12.18	.67	.40		.04
Spray	12.68	.67	.40		.04
Structural Steel and Tanks:					
Brush	12.43	.67	.40		.04
Spray and Sandblasters	12.93	.67	.40		.04

	Basic Hourly Rates	Fringe Benefits Payments			
		H & W	Pensions	Vacation	Education and/or Appr. Tr.
PLASTERERS: (Phoenix Area)					
Zone A: 0-35 miles from Pheonix	$ 11.02	.95	$ 1.30		.06
Zone B: 35-60 miles from Phoenix	11.77	.95	1.30		.06
Zone C: 60 miles and over from Phoenix	12.895	.95	1.30		.06
PLASTERERS: (Tucson Area)					
Zone A: 0-30 miles from Tucson	8.57	.35	.60		
Zone B: 30-40 miles from Tucson	9.07	.35	.60		
Zone C: 40-50 miles from Tucson	9.32	.35	.60		
Zone D: 50 miles and over from Tucson	10.07	.35	.60		
PLASTERERS' TENDERS:					
Central and Southern Areas	9.16	.85	.85		.10
PLUMBERS; Steamfitters:					
FREE ZONE 0-15 miles					
The "Free Zone" (Zone I) shall be 15 road miles from the stated base points in Flagstaff, Yuma, Tucson and Douglas. The "Free Zone" from Phoenix shall be 15 miles radius from the stated base point. In addition, all areas within the City limits of Phoenix, Chandler, Scottsdale, Tempe, Glendale, Mesa, Kingman, Havasu City, Prescott, Winslow and Holbrook will be included as Free Zones. Any work contracted for outside of these zones will be determined from the Phoenix and Tucson basing points.					
Zone 1: 0-15 miles	13.24	.75	1.35		.13
Zone 2: 15-30 miles	13.64	.75	1.35		.13
Zone 3: 30-40 miles	14.09	.75	1.35		.13
Zone 4: 40 miles and over	15.59	.75	1.35		.13
ROOFERS: (Tucson Area)					
Asbestos; Shinglers; Tile and Waterproofing:					
Zone A: 0-44 miles from Tucson	$ 9.77	.845	.20		.03
Zone B: over 44 miles from Tucson	11.52	.845	.20		.03
ROOFERS: (Phoenix Area)					
Roofers and Waterpfoofers	10.16	.845	.20		.02

	Basic Hourly Rates	Fringe Benefits Payments			
		H & W	Pensions	Vacation	Education and/or Appr. Tr.
SHEET METAL WORKERS:					
Zone Bases: From the Administration Building or City Hall in Flagstaff, Kingman, Phoenix, Prescott and Yuma					
Zone 1: 0-25 miles excluding Luke and Williams Air Force Bases	$ 11.70	.90	$1.30		.10
Zone 2: 25-50 miles including Luke and Williams Air Force Bases	12.35	.90	1.30		.10
Zone 3: 50 miles and over	14.20	.90	1.30		.10
Zone Bases: From the Administration Building or City Hall in Douglas and Tucson					
Zone A: 0-22 miles	10.30	3% +1.14	1.91		.04
Zone B: 22-45 miles	11.25	3% +1.14	1.91		.04
Zone C: Over 45 miles	12.80	3% +1.14	1.91		.04
SOFT FLOOR LAYERS: (Phoenix Area)					
Zone A: 0-40 miles from Court House in Phoenix and Flagstaff including Luke and Williams Air Force Bases	9.21	.59	.12		.12
Zone B: 41-60 miles from Court House in Phoenix and Flagstaff	10.21	.59	.12		.12
Zone C: 61 miles and over from Court House in Phoenix and Flagstaff	10.71	.59	.12		.12
SOFT FLOOR LAYERS: (Tucson Area)	9.25	.38			
SPRINKLER FITTERS	12.74	.75	1.05		.08
TERRAZZO WORKERS; Tile Setters; Marble Masons:					
Tucson Area	9.27	.90	.85		
TERRAZZO WORKERS; TILE SETTERS:					
Phoenix Area	10.79	.65	.90		.16

FOOTNOTE:

a. Employer contributes 4% of basic hourly rate for 5 years' service and 2% basic hourly rate for 6 months' to 5 years' service as Vacation Pay Credit. Six Paid Holidays: A through F.

PAID HOLIDAYS:

A-New Year's Day; B-Memorial Day; C-Independence Day; D-Labor Day;
E-Thanksgiving Day; F-Christmas Day.

	Basic Hourly Rates	Basic Hourly Rates	Fringe Benefits Payments			
			H & W	Pensions	Vacation	Education and/or Appr. Tr.
LABORERS	C&S AREAS	N AREA				
Group 1:	$ 8.36	$ 9.985	.92	.98		.10
Group 2:	8.49	10.115	.92	.98		.10
Group 3:	8.63	10.255	.92	.98		.10
Group 4:	8.74	10.365	.92	.98		.10
Group 5:	8.91	10.535	.92	.98		.10
Group 6:	9.285	10.91	.92	.98		.10
Group 7:	9.915	11.54	.92	.98		.10
LABORERS (Tunnel and Shaft Work)						
Group 1:	8.605	10.23	.92	.98		.10
Group 2:	8.77	10.395	.92	.98		.10
Group 3:	8.90	10.525	.92	.98		.10
Group 4:	9.26	10.885	.92	.98		.10
Group 5:	9.435	11.06	.92	.98		.10
Group 5A:	9.685	11.31	.92	.98		.10
POWER EQUIPMENT OPERATORS (Except Piledriving and Steel Erection)						
Group 1:	8.93	10.555	1.05	1.00		.08
Group 2:	9.30	10.925	1.05	1.00		.08
Group 3:	9.76	11.385	1.05	1.00		.08
Group 4:	10.29	11.915	1.05	1.00		.08
Group 5:	10.82	12.445	1.05	1.00		.08
Group 5A:	11.13	12.755	1.05	1.00		.08
Group 6:	11.46	13.085	1.05	1.00		.08
Group 7:	12.06	13.685	1.05	1.00		.08
TRUCK DRIVERS						
Group 1:	8.52	10.145	.92	.98		.08
Group 2:	8.65	10.275	.92	.98		.08
Group 3:	8.87	10.495	.92	.98		.08
Group 4:	9.22	10.845	.92	.98		.08
Group 5:	9.38	11.005	.92	.98		.08
Group 5A:	9.56	11.185	.92	.98		.08
Group 6:	9.70	11.325	.92	.98		.08
Group 7:	10.11	11.735	.92	.98		.08
Group 8:	10.625	12.25	.92	.98		.08
Group 8A:	11.28	12.905	.92	.98		.08
Group 8B:	10.97	12.595	.92	.98		.08
Group 8C:	9.08	10.705	.92	.98		.08

LABORERS

Group 1: All Helpers not herein separately classified; Cesspool Diggers and installers; Chat Box Man; Checker, tool dispatcher; Concrete dump manbelt, pipe and/or hoseman; Dumpman and/or spotter; Fence builder, guard rail builder highway; Form strippers; Labor, general or construction; Landscape gardener and nurseryman; Packing rod steel and pans; Rip rap stoneman; Astro turf layer; Cleanup, Bull gang; Trackman-railroad

Group 2: Cement finisher tender; Concrete curer (impervious membrane); Cutting torch operator; Fine grader (highway, engineering and sewer work only); Kettleman - Tarman; Power type concrete buggy

Group 3: Bander; Chucktender (except tunnel); Creosote tieman; Guinea chaser; Powderman helper; Rip-rap stone paver; Sandblaster (pot tender); Spiker and wrenchers

Group 4: Cement dumpers (Skip-type mixer or handling bulk cement); Chain saw machines (on clearing and grubbing); Concrete vibrating machines; Cribber and shorer (except tunnel); Floor sanders concrete; Hydraulic jacks, and similar mechanical tools not separately classified herein; Operators and tenders of pneumatic and electric tools; Pipe caulker and/or backup man (pipeline); Pipe wrapper; Pneumatic gopher; Rigger/Signalman (pipeline)

Group 5: Air and water wash-out nozzleman; Asphalt rakers and ironers; Driller; Grade setter (pipeline); Hand guided trencher and similar operated equipment; Jackhammer and/or pavement breakers; Pipelayers (including but not limited to non-metallic, transite and plastic pipe, water pipe, sewer pipe, drain pipe, underground tile and conduit); Rock slinger; Scaler (using Bos'ns chairs or safety belt); Tampers (mechanical - all types); Precast manhole erector

Group 6: Concrete Cutting Torch; Concrete saw (hand guided); Driller, (core, diamond, wagon or air track); Drill doctor and/or air tool repairman; Gunman and mixerman (gunite); Sandblaster (nozzleman)

Group 7: Concrete Road Form Setter; Gunite nozzleman or rodman; Drillers, Joy Mustang, PR 143, 220 Gardner-Denver, Hydrasonic; Powderman; Scaler (drillers); Welders and/or Pipelayers installing process piping; Form setter and/or builder

LABORERS
(Tunnel and Shaft Workers)

Group 1: Bull Gang, muckers, trackman; Dumpmen; Concrete crew (includes rodders and spreaders); Grout crew; Swamper (brakeman and switchmen on tunnel work); Change house man

Group 2: Nipper; Chucktender, Cabletender, Vibratorman, Jackhammer, Pneumatic tools (except driller)

Group 3: Grout Gunman

Group 4: Timberman, Retimberman - wood or steel blaster, driller powderman; Cherry pickerman; Powderman - primer house; Steel form raiser and setter; Kemper and other pneumatic concrete placer operator; Miner - finisher; Miners - Tunnel (hand or machine)

Group 5: Diamond Drill

Group 5A: Shaft and Raise Miner Welder

POWER EQUIPMENT OPERATORS
(Except Piledriving and Steel Erection)

Group 1: Air compressor operator; Field equipment servicemen helper; Heavy duty repair helper; Heavy duty welder helper; Oiler; Pump operator

Group 2: Conveyor operator; Generator operator - portable; Power grizzly operator; Self-propelled chip spreading machine - conveyor operator; Watch fireman; Welding machine operator - gasoline and diesel power

Group 3: Concrete mixer operator - skip type; Dinky operator - (under 20 tons wt.); Driver-moto paver, Slurry seal machine, and similar type equipment; Motor crane driver; Power sweeper operator - self-propelled; Ross carrier or fork lift operator; Skip loader operator - all types with rated capacity 1-1/2 cu. yds. or less; Wheel type tractor operator (Ford, Ferguson, or similar type) with attachments such as fresno, push blade, post hole auger, mower, etc., excluding compacting equipment

Group 4: A-Frame boom truck or winch truck operator; Asphalt plant firemen; Elevator hoist operator (including Tuskey hoist or similar type); Grade checker (excluding civil engineer); Multiple power concrete saw operator; Pavement breaker, mechanical compactor operator, power propelled; Roller operator - all types - except as otherwise classified; Screed operator; Self-propelled chip spreading machine operator (including Slurry seal machine operator) Stationary pipewrapping and cleaning machine operator; Tugger operator

Group 5: Aggregate plant operator (including crushing, screening and sand plants, etc.); Asphalt plant mixer operator; Beltcrete machine; Boring machines operator; Concrete mechanical tamping, spreading or finishing machine (including Clary, Johnson or similar types); Concrete pumps operator; Concrete batch plant operator, all types and sizes; Conductor, brakeman, or handler; Drilling machine, including water wells; Elevating grader operator - all types and sizes (except as otherwise classfied); Field equipment serviceman; Highline cableway signalman; Kolman belt loader operator or similar, with belt width 48" or over; Locomotive engineer (including Dinky - 20 tons wt. and over); Moto-paver and similar type equipment operator; Operating engineer rigger; Pneumatic-tired scraper operator (Turnapull, Euclid, Cat, D-W, Hancock and similar equipment) up to and including 12 cu. yds.; Power jumbo form setter operator; Pressure grout machine operator (as used in heavy engineering construction); Road oil mixing machine operator; Roller operator - on all types asphalt pavement; Self-propelled compactor, with blade; Skip loader operator - all types with rated capacity over 1-1/2 but less than 4 cu. yds.; Slip form operator (power driven lifting device for concrete forms); Soil Cement road mixing machine operator - single pass type; Stationary Central generating plant operator - rated 300 K.W. or more; Surface heater and planer operator; Traveling pipewrapping machine operator

POWER EQUIPMENT OPERATORS (Cont'd)
(except Piledriving and Steel Erection)

Group 5-A: Heavy duty mechanic and/or welder; Pneumatic tired scraper, all sizes and types over 12 cu. yds. up to and including 45 cu. yds. MRC (Turnapull, Euclid, Cat, D-W, Hancock and similar equipment); Tractor operator (Pusher, Bulldozer, Scraper) up to 400 net horsepower rating; Trenching machine operator

Group 6: Auto-Grade machine (CMI and similar equipment); Boring machine operator (including Mole, Badger and similar type); Concrete Mixer operator-paving type, and mobile mixer; Concrete pump operator with boom attachment (truck mounted); Crane operator - crawler and pneumatic type, under 100 ton capacity MRC; Crawler type tractor operator - with boom attachment; Derrick operator; Forklift operator for hoisting personnel; Grade-all operator; Helicopter hoist; Highline cableway operator (less than 20 tons rated capacity); Mass excavator operator (150 Bucyrus Erie and similar types); Mechanical hoist operator (two or more drums); Motor grade operator - any type power blade; Motor grade operator with elevating grader attachment; Mucking machine operator; Overhead crane operator; Piledriver engineer (portable, stationary or skid rig); Pneumatic-tired scraper operator - all sizes and types (Turnapull, Euclid, Cat, D-W, Hancock and similar equipment over 45 cu. yds., MRC); Power driven ditch lining or ditch trimming machine operator; Skip loader operator - all types with rated capacity 4 cu. yds., but less than 8 cu. yds.; Slip form paving machine operator (including Gunnert, Zimmerman and similar types); Specialized power digger operator - attached to wheel-type tractor; Tower crane (or similar type) operator; Tractor operator (Pusher, Bulldozer, Scraper (400 net horsepower and over); Tugger operator (two or more); Universal equipment operator - Shovel, Backhoe, Dragline, Clamshell, etc. up to 8 cu. yds.

Group 7: Crane operator - pneumatic or crawler (100 ton hoisting capacity and over MRC rating); Helicopter pilot - FAA qualified when used in construction work; Highline cableway operator, over 20 ton rated capacity and using traveling head and tail tower; Remote control earth moving equipment operator; Skip loader operator - all types with rated capacity of 8 cu. yds. or more; Universal equipment - Shovel, Backhoe, Dragline, Clamshell, etc., 8 cu. yds. and over

TRUCK DRIVERS

Group 1: Teamsters; Pickups; Station Wagons; Manhaul driver

Group 2: Dump or flatrack (2 or 3 axle); Water truck (under 2500 gallons); Buggymobile (1 cu. yd. or less); Tireman; Bus drivers, ambulance driver, self-propelled street sweeper; Warehouseman

Group 3: Dump or flatrack (4 axle); Dumptor or dumpster (less than 7 cu. yds.); Water truck (2500 gallons but less than 4000 gallons)

Group 4: Dumptor or dumpster (7 cu. yds. but less than 16 cu. yds.); Dump or flatrack (5 axle); Water truck (4000 gallons and over); Slurry type equipment or leverman; Flaherty spreader or similar type equipment or leverman; Transit mix (8 cu. yds. or less)

Group 5: Dump or flatrack (6 axle); Transit mix (over 8 cu. yds. but less than 10.5 cu. yds.); Rock truck (i.e. Dart, Euclid and other similar type end dumps, single unit less than 16 cu. yds.)

Group 5-A: Oil Tanker or Spreader and/or Bootman, Retortman or Leverman

Group 6: Transit mix (over 10.5 cu. yds. but less than 14 cu. yds.); Ross carrier; Fork lift or lift truck; Hydro lift, Swedish crane Iowa 300 and similar types; Concrete pump (when integral part of transit mix truck); Dump or flatrack (7 axle)

Group 7: Dump or Flatrack (8 axles)

Group 8: Off-highway equipment driver including but not limited to: 2 or 4 wheel power unit, i.e., Cat, DW Series, Euclid, International and similar type equipment, transporting material when top loaded or by external means inlcuding pulling water tanks, fuel tanks or other applications under Teamster Classifications; Rock trucks (Dart, Euclid, or other similar end dump types) 16 cu. yds. and over; Ejectalls; Dumptor or dumpster (16 cu. yds. and over); Dump or flatrack (9 axles)

Group 8A: Heavy duty mechanic/welder; Body and fender man

Group 8B: Field equipment serviceman or fuel truck driver

Group 8C: Heavy duty mechanic/welder helper

SUPERSEDEAS DECISION

STATE: Florida
COUNTIES: Martin & Palm Beach
DECISION NUMBER: FL79-1028
DATE: Date of Publication
Supersedes Decision No.: FL78-1055 dated June 16, 1978 in 43 FR 26234
DESCRIPTION OF WORK: Building Construction (does not include single family homes or garden type apartments of four stories or less).

	Basic Hourly Rates	Fringe Benefits Payments			
		H & W	Pensions	Vacation	Education and/or Appr. Tr.
ASBESTOS WORKERS	$11.10	.55+.10	.65		.02
BOILERMAKERS	11.00	.75	1.10		.02
BRICKLAYERS:					
Bricklayers; Cement Masons; Marble Setters; Plasterers; Stonemasons; Tile & Terrazzo Workers	10.00	.65	.55		.02
CARPENTERS; Soft Floor Layers	9.40	.55	.70		.06
ELECTRICIANS:					
Wiremen	11.27	4.5%	3%+6%	6%	1.5%
Cable Splicers	12.48	4.5%	3%+6%	6%	1.5%
ELEVATOR CONSTRUCTORS:					
Mechanics	10.91	.745	.56	4%+a+b	.025
GLAZIERS	10.24	.55	.40		
IRONWORKERS	10.15	.45	.38	.50	.10
LABORERS:					
Air Tool Operators; Mason Tenders; Mortar Mixers; Pipelayers	6.70	1.10	.37		
Plasterer Tenders	6.88	1.10	.37		
Unskilled	6.60	1.10	.37		
LATHERS	9.73		.10		.025
LINEMEN:					
Linemen	11.17	3.5%	3%+6%		0.75%
Heavy Equipment Operators	11.17	3.5%	3%+6%		0.75%
Cable Splicers	11.47	3.5%	3%+6%		0.75%
Winch Truck Operators	8.90	3.5%	3%+6%		0.75%
Truck Drivers	7.31	3.5%	3%+6%		0.75%
Groundmen	6.07	3.5%	3%+6%		0.75%

	Basic Hourly Rates	Fringe Benefits Payments H & W	Pensions	Vacation	Education and/or Appr. Tr.
MILLWRIGHTS	$ 9.70	.55	.70		.06
PAINTERS:					
Brush	8.33	.55	.30		.05
Paperhanger; Roller	8.58	.55	.30		.05
Spray; Taper	8.83	.55	.30		.05
PILEDRIVERS	9.45	.55	.70		.06
PLUMBERS: Pipefitters;					
Steamfitters:					
Commercial	10.25	.52	1.00		.16
Industrial	12.54	.52	1.00		.16
ROOFERS:					
Roofers	9.40	.40	.50		.015
Pot Firemen; Mud Mixers	6.10	.40	.50		.015
SHEET METAL WORKERS	10.70	.60	.33		.03
SPRINKLER FITTERS	10.61	.75	1.05		.10
WELDERS - Rate for craft to which welding is incidental					

PAID HOLIDAYS (Where Applicable)

A-New Year's Day, B-Memorial Day, C-Independence Day, D-Labor Day, E-Thanksgiving Day, F-Christmas Day

FOOTNOTES:

a. Six paid holidays: A through F.

b. Employer contributes 4% of regular hourly rate to Vacation Pay Crddit for employee who has worked in business more than 5 years. Employer contributes 2% of regular hourly rate to Vacation Pay Credit for employee who has worked in business less than 5 years.

	Basic Hourly Rates	Fringe Benefits Payments H & W	Pensions	Vacation	Education and/or Appr. Tr.
POWER EQUIPMENT OPERATORS:					
GROUP I	$ 9.95	.50	.80		.10
GROUP II	9.80	.50	.80		.10
GROUP III	9.30	.50	.80		.10
GROUP IV	8.85	.50	.80		.10
GROUP V	8.70	.50	.80		.10
GROUP VI	8.35	.50	.80		.10
GROUP VII	8.10	.50	.80		.10
GROUP VIII	8.00	.50	.80		.10
GROUP IX	7.60	.50	.80		.10

GROUP I:
All tower cranes, cranes with boom length over 250 ft., derricks, helicopters, All types of flying cranes, all nuclear powered equipment

GROUP II:
All cranes with boom length of 150 ft. to 250 ft., cranes of 150 tons and over with boom length of under 250 ft., gantry and overhead cranes.

GROUP III:
All hydro cranes, cranes with boom length of under 150 ft., clamshell, shovel, backhoe, gradall, cherrypicker, dragline, piledriver, drilling of piling, tugger hoist, motor grader (finish), mechanic, sideboom, tractor boom, concrete mixer, cableway.

GROUP IV:
Boring & drilling machine, concrete pump machine, batching plant, inside elevator, forklift with vert. lift of over 20 ft.

GROUP V:
Locomotive, motor mixing pump, winch truck, A-frame truck, grease truck, front end loader, bulldozer, pan, motor grader, forklift.

GROUP VI:
Trenching and ditching machine, roller, fireman, distributor (bituminous), finish machine (paving), wellpoint system (installation and/or operation), siphon vacumn pump, tractor, conveyor.

GROUP VII:
Utility operator (any combination of equipment up to and including 4 pieces listed in Group VIII), welding machine (3 or 4).

GROUP VIII:
Pump (over 2½ inches), compressor (over 125 c.f.m.)., generator (over 5 KW), welding machine (2).

GROUP IX:
Oiler, fuel truck, machine helper, boom hauling truck; lowboy truck

SUPERSEDEAS DECISION

STATE: Florida COUNTY: Bay
DECISION NUMBER: FL79-1029 DATE: Date of Publication
Supersedes Decision No.: FL78-1073 dated September 8, 1978 in 43 FR 40173.
DESCRIPTION OF WORK: Building construction (excluding single family homes and garden type apartments up to and including 4 stories).

	Basic Hourly Rates	Fringe Benefits Payments			
		H & W	Pensions	Vacation	Education and/or Appr. Tr.
Bricklayers	5.00				
Carpenters	5.40				
Carpet layers	5.00				
Cement masons (finishers)	3.75				
Drywall hanger	6.00				
Electricians	10.97	.50	.3%		0.5%
Elevator constructors	8.65	.495	.32	4%+a+b	.02
Elevator constructors' helpers	6.04	.495	.32	4%+a+b	.02
Ironworkers	8.77	.30	.35		
Laborers:					
Laborers	2.98				
Plasterers tenders	3.50				
Painters	4.50				
Plasterers	6.00				
Plumbers & pipefitters	6.00				
Roofers	4.50				
Sheet metal workers	6.00				
Soft floor layers	3.50				
Sprinkler fitters	10.61	.75	1.05		.10
Tile setters	5.00				
Welders - rate for craft to which welding is incidental					
POWER EQUIPMENT OPERATORS:					
Bulldozers	3.25				
Crane	3.75				
Forklift	3.25				

SUPERSEDEAS DECISION

STATE: Florida COUNTY: Broward
DECISION NUMBER: FL79-1030
Supersedeas Decision No.: FL77-1152 dated December 9, 1977 in 42 FR 62337.
DESCRIPTION OF WORK: Building Construction (does not include single family houses or garden type apartments of four stories or less).

	Basic Hourly Rates	Fringe Benefits Payments			
		H & W	Pensions	Vacation	Education and/or Appr. Tr.
Asbestos workers	$ 11.10	.60	.65		.02
Boilermakers	11.00	.75	1.10		.02
Bricklayers; Stonemasons	9.65	.63	.55		.04
Carpenters; Soft floor layers	9.45	.88	.45		.06
Cement masons	9.65	.63	.55		.04
Electricians:					
Wiremen	10.96	.65	3%+.40		1%
Cable splicers	11.48	.65	3%+.40		1%
Elevator Constructors:					
Mechanics	10.91	.745	.56	4%+a+b	.025
Helpers	7.64	.745	.56	4%+a+b	.025
Probationary Helpers	5.455				
Glaziers	10.24	.55	.40		
Ironworkers	10.00	.75	.83		.04
Laborers:					
Air tool operators; Mason tenders; Mortar mixers; Pipelayers	6.70	1.10	.37		
Plasterer tenders	6.88	1.10	.37		
Unskilled	6.60	1.10	.37		
Lathers	9.85	.50	.30		.04
Line Construction:					
Linemen; Class 'A' Equipment Operators	10.54	.65	3%		0.75%
Class 'B' Equipment Operators	8.43	.65	3%		0.75%
Cable Splicers	10.79	.65	3%		0.75%
Groundmen	6.01	.65	3%		0.75%
Marble setters	9.65	.63	.55		.04
Millwrights	9.70	.88	.45		.06
Painters:					
Brush	9.15	.55	.50		.02
Drywall tapers; Paperhangers	9.40	.55	.50		.02
Spray; Sandblast	9.65	.55	.50		.02
Piledrivers	9.45	.88	.45		.06
Plasterers	9.65	.63	.55		.04
Plumbers; Pipefitters:					
Small Commercial: (Office bldgs. of 1 or 2 stories, not over 14 fixtures and restarts):	8.65	.60	.80		.10
All other work	11.05	.60	.80		.10

	Basic Hourly Rates	Fringe Benefits Payments			
		H & W	Pensions	Vacation	Education and/or Appr. Tr.
Refrigeration & Air Conditioning Mechanics:					
Units of 15 tons or over	11.03	1.08	1.00		.09
Units of over 7.5 tons & under 15 tons	8.23	1.08	1.00		.09
Roofers	8.60	.45	.20	.85	
Sheet metal workers	10.55	.75	.50		.10
Sprinkler fitters	10.61	.75	1.05		.10
Tile & Terrazzo workers	9.65	.63	.55		.04
Welders - rate for craft to which welding is incidental.					

FOOTNOTES:

a. Six paid holidays: New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day, Christmas Day.

b. Four per cent of basic hourly rate for employee who have worked in business more than five years; two percent for employees who have worked less than five years.

OPERATING ENGINEERS	Basic Hourly Rates	Fringe Benefits Payments			
		H & W	Pensions	Vacation	Education and/or Appr. Tr.
GROUP I	$9.95	.50	.80		.10
GROUP II	9.80	.50	.80		.10
GROUP III	9.30	.50	.80		.10
GROUP IV	8.85	.50	.80		.10
GROUP V	8.70	.50	.80		.10
GROUP VI	8.35	.50	.80		.10
GROUP VII	8.10	.50	.80		.10
GROUP VIII	8.00	.50	.80		.10
GROUP IX	7.60	.50	.80		.10

OPERATING ENGINEERS:

Group I:
All tower cranes, cranes with boom length over 250 ft., derricks, helicopters, All types of flying cranes, all nuclear powered equipment.

Group II:
All cranes with boom length of 150 ft. to 250 ft., cranes of 150 tons and over with boom length of under 250 ft., gantry and overhead cranes.

Group III:
All hydro cranes, cranes with boom length of under 150 ft., clamshell, shovel, backhoe, gradall, cherrypicker, dragline, piledriver, drilling of piling, tugger hoist, motor grader (finish), mechanic, sideboom, tractor boom, concrete mixer, cableway.

Group IV:
Boring & drilling machine, concrete pump machine, batching plant, inside elevator, forklift with vert. lift of over 20 ft.

Group V:
Locomotive, motor mixing pump, winch truck, A-frame truck, grease truck, front end loader, bulldozer, pan, motor grader, forklift.

Group VI:
Trenching and ditching machine, roller, fireman, distributor (bituminous), finish machine (paving), wellpoint system (installation and/or operation), siphon vacumn pump, tractor, conveyor.

Group VII:
Utility operator (any combination of equipment up to and including 4 pieces listed in Group VIII), welding machine (3 or 4).

Group VIII:
Pump (over 2½ inches), compressor (over 125 c.f.m.)., generator (over 5 KW), welding machine (2).

Group IX:
Oiler, fuel truck, machine helper, boom hauling truck; lowboy truck

SUPERSEDEAS DECISION

STATE: Florida COUNTIES: *See below
DECISION NUMBER: FL79-1036 DATE: Date of Publication
Supersedes Decision No.: FL77-1142 dated December 2, 1977 in 42 FR 61435.
DESCRIPTION OF WORK: Building Construction (does not include single family homes or garden type apartments of four stories or less) ; Heavy Construction and Highway Construction.

* Cape Canaveral, Kennedy Space Flight Center, Patrick Air Force Base, and Melabar Radar Site, Florida

	Basic Hourly Rates	Fringe Benefits Payments			
		H & W	Pensions	Vacation	Education and/or Appr. Tr.
Asbestos workers	11.28	.50	.45		.06
Boilermakers	11.00	.75	1.10		.02
Bricklayers:					
Bricklayers	7.56	.40	.25		
Blocklayers	7.56	.40	.25		
Manhole bricklayers	7.56	.40	.25		
Plasterers	7.56	.40	.25		
Terrazzo workers	7.56	.40	.25		
Tile setters	7.56	.40	.25		
Cement masons	7.41	.40	.25		
Masonary cutting or grinding machine operator	7.71	.40	.25		
Carpenters:					
Carpenters	8.21	.50	.40		.05
Radial saw operators	8.51	.50	.40		.05
Soft floor layers	8.51	.50	.40		.05
Electricians:					
Base Zone (within 40 miles of Daytona Beach); Electrical contracts of under $100,000					
Electricians	8.65	.45	3%+.58		.1%
Cable splicers	8.90	.45	3%+.58		.1%
Electrical contracts of over over $100,000:					
Electricians	9.15	.45	3%+.58		.1%
Cable splicers	9.40	.45	3%+.58		.1%
All work in Zone 1 (beyond 40 miles from Daytona Beach):					
Electricians	9.60	.45	3%+.58		.1%
Cable splicers	9.85	.45	3%+.58		.1%
Elevator constructors:					
Mechanics	9.785	.745	.56	a+b	.025
Helpers	6.85	.745	.56	a+b	.025
Probationary helpers	4.89				
Glaziers	7.35		.10		.01
Ironworkers	9.33	.65	.60	.65	.05

FL79-1036 (cont'd)

	Basic Hourly Rates	Fringe Benefits Payments			
		H & W	Pensions	Vacation	Education and/or Appr. Tr.
Laborers:					
Air tool operators; concrete laborers; Hod carriers; Mason tenders; Mortar mixers; kettlement (excl. roofing & water proofing); Pipelayers: Powdermen ; form setters (paving & curbing & gutter); Well point & dewatering system laborer	6.40	.45	.30		
Gunnite laborer	6.67	.45	.30		
Gunnite nozzlemen	7.07	.45	.30		
Unskilled	6.25	.45	.30		
Lathers	8.88	.35	.25		.15
Linemen:					
Linemen	10.00	.45	3%		3/4 of 1%
Cable splicers	10.15	.45	3%		3/4 of 1%
Class A operators	10.00	.45	3%		3/4 of 1%
Class B operators	7.00	.45	3%		3/4 of 1%
Groundmen - over 1 year	5.17	.45	3%		3/4 of 1%
Groundmen - under 1 year	4.29	.45	3%		3/4 of 1%
Millwrights	9.80	.55	.70		.08
Painters:					
Brush; roller	7.95		.30		.05
Spray	8.65		.30		.05
Mitten	8.65		.30		.05
Tar, bituminous, milar materials, asphalt (excl. asphalt base aluminum & varnish)	8.65		.30		.05
Paperhanging	8.65		.30		.05
Sandblasting	8.65		.30		.05
Piledrivers	8.51	.50	.40		.25
Plumbers; Pipefitters; Steamfitters:					
Commercial	10.50	.54	.56		.05
Industrial	12.29	.67	.64		.05

FL79-1036 (Cont'd)

	Basic Hourly Rates	Fringe Benefits Payments H & W	Pensions	Vacation	Education and/or Appr. Tr.
Roofers:					
Roofers	7.90	.35	.25		
Kettlemen	6.45	.35	.25		
Sheet metal workers	10.42	.60	.33		.03
Sprinkler fitters	10.61	.75	1.05		.10
Welders - rate for craft to which welding is incidential.					

PAID HOLIDAY (WHERE APPLICABLE)
A-New Year's Day; B-Memorial Day; C-Indenpendence Day
D-Labor Day; E-Thanksgiving Day; F- Christmas Day;

FOOTNOTES:

a. Six paid holidays: A through F.

b. Employer contributes 8% of regular hourly rate to Vacation Pay Credit for employee who has worked in business more than 5 years. Employer contributes 6% of regular hourly rate to Vacation Pay Credit for employee who has worked in business less than 5 years.

FL79-1036- (Cont'd)

POWER EQUIPMENT OPERATORS	Basic Hourly Rates	Fringe Benefits Payments H & W	Pensions	Vacation	Education and/or Appr. Tr.
GROUP I	9.60	.50	.35		.05
GROUP II	9.00	.50	.35		.05
GROUP III	8.50	.50	.35		.05
GROUP IV	8.10	.50	.35		.05
GROUP V	7.40	.50	.35		.05

GROUP I: Cranes, hydraulic or derrick on structural or reinforcing iron, cranes or derrick, clam shell, dragline, piledriver operator (including auger & boring machine operator for drilling in piling), backhoe (including hydraulic), hydraulic crane, gradall, shovell, motor patrol, mechanic heavy equipment, side boom cat & multi-drum hoist.

GROUP II: Bulldozer & trenching machine, bridge crane, highlift, straddle buggy, hoist, earth hauling scraper (regardless how powered), pump crete & front end loader

GROUP III: Winch truck, concrete/asphalt paver, fork lift engineer, boring machine, well drilling machine & mobile cleaning plant

GROUP IV: Tractor, well point pump & installation man, lubrication engineer equipment greaser, air compressor, & fireman

GROUP V: Motor boat, oiler, mechanic helper, pumpman (other than well point), roller (steel & rubber tires), self-propelled, conveyor, welding machine, three or more combustion engines & Pulver mixer

SUPERSEDEAS DECISION

Page 2

STATE: KENTUCKY
COUNTY: McCRACKEN
DECISION NO.: KY79-1031
DATE: DATE OF PUBLICATION
Supersedes Decision Number KY77-1110, dated August 26, 1977, in 42 FR 43337.
DESCRIPTION OF WORK: Building Construction (does not include single family homes and garden type apartments up to and including 4-stories).

	Basic Hourly Rates	Fringe Benefits Payments			
		H & W	Pensions	Vacation	Education and/or Appr. Tr.
ASBESTOS WORKERS	$11.70	.45	1.00		.03
BOILERMAKERS	10.70	1.05	1.10		.02
BRICKLAYERS, STONE MASONS, MARBLE MASONS, TILE SETTERS, & TERRAZZO WORKERS	9.74	.40	.30		
CARPENTERS	9.80	.45	.25		.02
CEMENT MASONS	8.70	.85	.40		.05
ELECTRICIANS:					
Wiremen	10.95	.50	13%		¾ of 1%
Cable splicers	11.20	.50	13%		¾ of 1%
ELEVATOR CONSTRUCTORS:					
Mechanics	11.41	.745	.56	a + b	.025
Helpers	7.99	.745	.56	a + b	.025
Probationary helpers	5.705				
GLAZIERS	10.905	.48	.50	.25	
IRONWORKERS - Structural, Ornamental & Reinforcing	10.75	.55	.75		.05
LATHERS	9.31		.20	.75	.01
LINE CONSTRUCTION:					
Linemen & equipment operators	12.10	.45	3%		½ of 1%
Cable splicers	12.35	.45	3%		½ of 1%
Groundmen truck drivers	9.20	.45	3%		½ of 1%
Groundmen	8.87	.45	3%		½ of 1%
PAINTERS:					
Brush & roller	7.60	.45			
Sandblast & power tools	8.50	.45			
Steeple jack work	10.60	.45			
Free Fall Premium Rate:					
0 to 80' + 50¢ over base rate of work classification					
80' to 120' + 75¢ over base rate of work classification					
Over 120' + $1.00 over base rate of work classification					
PILEDRIVERMEN & MILLWRIGHTS	10.25	.45	.25		.02

DECISION NO. KY79-1031

	Basic Hourly Rates	Fringe Benefits Payments			
		H & W	Pensions	Vacation	Education and/or Appr. Tr.
PLASTERERS	$ 9.26			.95	.01
PLUMBERS & PIPEFITTERS	11.50	.60	.65	.50	.08
ROOFERS	8.90		.10		
SHEET METAL WORKERS	11.65	1.102	1.05		.14
SOFT FLOOR LAYERS	9.80	.45	.25		.02
SPRINKLER FITTERS	12.10	.75	1.05		.08
TRUCK DRIVERS:					
Trucks up to but not including 5 tons, such as station wagons, autos, pick-up-trucks, dump trucks, flat beds and stake bodies;	7.25		.55		
Trucks 5 tons and over, including special equipment such as Euclids, winch trucks, Dempster dumpsters, crawler-type trucks, tandem dump trucks, mechanics, all ready-mix trucks, tractor trailers, low boys, distributor trucks, water tank trucks, fork lifts;	7.90		.55		
Greasers, tire changers, materials checkers	7.85		.55		
WELDERS: Receive rate prescribed for craft performing operation to which welding is incidental.					

FOOTNOTES:

a. Seven Paid Holidays: New Year's Day; Memorial Day; Independence Day; Labor Day; Thanksgiving Day; Friday after Thanksgiving Day; Christmas Day.

b. Employer contributes 8% of the basic hourly rate of employees with 5 years or more of service, or 6% of the basic hourly rate of employees with 6 months to 5 years of service as Vacation Pay Credit.

DECISION NO. KY79-1031

LABORERS:	Basic Hourly Rates	Fringe Benefits Payments: H & W	Pensions	Vacation	Education and/or Appr. Tr.
GROUP 1	$ 6.98	.35	.47		
GROUP 2	7.18	.35	.47		
GROUP 3	7.48	.35	.47		

LABORERS' CLASSIFICATION DEFINITIONS

Group 1 - General laborers; wrecking labor on buildings, clearing right-of-way and building site; carpenter tenders; truck spotters and dumpers; axe and cross cut saw filer; concrete pudlers and form strippers.

Group 2 - All power driven tools; hod carriers; mason tenders; finisher tenders; mortar mixers; jack hammers; vibrators; wagon drill; core drill; test drill; well drill; concrete pump machine; tunnel boring machine; men in tunnel and crib ditch work; signal men; riprap rock setters and handlers; asphalt rakers; tampers and smoothers; pipelayers; grout pump men; chain saw; pipe clearing; doping and wrapping; swampers and straight cable hooking; cement guns; grade checkers machine excavating; batch plant scale man; sand hog free air; sand hog compressed air; cutting torch man on salvage work; road form setters; brick slingers; hand spikers; power buggy; handling of creosote material; sandblasters; curing of concrete and apply hardner; air and gas tampers; concrete saw; power posthole diggers and green cut men on concrete work.

Group 3 - Powdermen; blasters

DECISION NO. KY79-1031

POWER EQUIPMENT OPERATORS:	Basic Hourly Rates	Fringe Benefits Payments: H & W	Pensions	Vacation	Education and/or Appr. Tr.
CLASS A	$11.00	.60	.50		.05
CLASS B	8.41	.60	.50		.05
CLASS C	7.69	.60	.50		.05

CLASSIFICATIONS DEFINITIONS

Class A - Auto patrol, batcher plant, bituminous paver, cableway, central compressor plant, clamshell, concrete mixer (21 cu. ft. or over), concrete pump, crane, crusher plant, derrick, derrick boat, ditching and trenching machine, dragline, dredge operator, dredge engineer, elevating grader and all types of loaders, hoe type machine, hoist (1-drum when used for stack or chimney construction or repair), hoisting engine (2 or more drums), locomotive, motor scraper, carry-all scoop, bulldozer, heavy duty welder, mechanic, orangepeel bucket, pile driver, power blade, motor grader, roller (bituminous), scarifer, shovel, tractor shovel, truck crane, winch truck, push dozer, highlift, forklift (regardless of lift height and except when used for masonry construction), all types of boom cats, core drill, hopto, tow or push boat, A-frame winch truck, concrete paver, gradeall, hoist, hyster, pumporete, Ross carrier, boom, tail boom, rotary drill, hydro hammer, mucking machine, rock spreader attached to equipment, scoopmobile, KeCal loader, tower cranes (French, German and other types), hydrocrane, backfiller, gurries, sub-grader;

Class B - All air compressors (over 900 cu. ft. per min.), bituminous mixer, joint sealing machine, concrete mixer (under 21 cu. ft.), form grader, roller (rock), tractor (50 hp and over), bull float, finish machine, outboard motor boat, flexplane, fireman, boom type tamping machine, truck crane oiler, greaser on grease facilities servicing heavy equipment, switchman or brakeman, mechanic helper, whirley oiler, self-propelled compactor, tractair and road widening trencher and farm tractor with attachments except backhoe, highlift and end loader, elevator (regardless of ownership when used for hoisting any building material), hoisting engine (1-drum or buck hoist), forklift (when used for masonry construction), well points, grout pump, throttle-valve man, tugger, electric vibrator compactor;

Class C - Bituminous distributor, cement gun, conveyor, mud jack, paving joint machine, roller (earth), tamping machine, tractors (under 50hp), vibrator, oiler, concrete saw, burlap and curing machine, hydro-seeder, power form handling equipment, deckhand steersman, hydraulic post driver, drill helper.

SUPERSEDEAS DECISION

STATE: KENTUCKY COUNTY: WARREN
DECISION NUMBER: KY79-1032 DATE: DATE OF PUBLICATION
Supersedes Decision Number KY78-1032, dated April 7, 1978, in 43 FR 14862.
DESCRIPTION OF WORK: BUILDING CONSTRUCTION (does not include single family homes and garden type apartments up to and including 4 stories).

	Basic Hourly Rates	Fringe Benefits Payments			
		H & W	Pensions	Vacation	Education and/or Appr. Tr.
ASBESTOS WORKERS	$11.55	.55	.65		.05
BOILERMAKERS	10.70	1.05	1.10		.02
BRICKLAYERS & STONE MASONS	9.05	.40	.30		
CARPENTERS & SOFT FLOOR LAYERS	9.30	.50	.50		.05
CEMENT MASONS & PLASTERERS	10.00				.03
ELECTRICIANS & CABLE SPLICERS	10.90		3%		¼ of 1%
ELEVATOR CONSTRUCTORS:					
Mechanics	11.41	.745	.56	4%+a+b	.025
Helpers	7.99	.745	.56	4%+a+b	.025
GLAZIERS	8.05	.50	.50		.02
IRONWORKERS - Structural, Ornamental, & Reinforcing	10.40	.70	.65		.10
LATHERS	8.65		.20	.65	.01
LINE CONSTRUCTION:					
Linemen, line truck, hole digger, & cable splicers	10.90		3%		½ of 1%
Groundmen	8.72		3%		½ of 1%
MILLWRIGHTS	11.75	.50	.65		.05
PAINTERS:					
Brush & roller	9.40		.40		.10
Spray & drywall finishing	9.65		.40		.10
Paperhangers	9.90		.40		.10
Sandblasting	10.15		.40		.10
PILEDRIVERMEN	9.30	.50	.50		.05
PIPEFITTERS	12.77	.75	1.40		.10
PLUMBERS	12.06	.80	1.24	.77	.15
ROOFERS	8.00	.50	.35	.15	
SHEET METAL WORKERS	11.65	1.102	1.05		.14
SPRINKLER FITTERS	12.10	.75	1.05		.08
TILE & MARBLE WORKERS	9.05	.40	.30		
WELDERS: Receive rate prescribed for craft performing operation to which welding is incidental.					

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DECISION NO. KY79-1032

LABORERS:	Basic Hourly Rates	Fringe Benefits Payments			
		H & W	Pensions	Vacation	Education and/or Appr. Tr.
Group 1	$ 6.98	.35	.47		
Group 2	7.13	.35	.47		
Group 3	7.48	.35	.47		

LABORERS' CLASSIFICATION DEFINITIONS

Group 1 - General laborers; wrecking labor on buildings, clearing right-of-way and building site; carpenter tenders; truck spotters and dumpers; axe and cross cut saw filer; concrete pudlers and form strippers.

Group 2 - All power driven tools; hod carriers; mason tenders; finisher tenders; mortar mixers; jack hammers; vibrators; wagon drill; core drill; test drill; well drill; concrete pump machine; tunnel boring machine; men in tunnel and crib ditch work; signal men; riprap rock setters and handlers; asphalt rakers; tampers and smoothers; pipelayers; grout pump men; chain saw; pipe clearing; doping and wrapping; swampers and straight cable hooking; cement guns; grade checkers machine excavating; batch plant scale man; sand hog free air; sand hog compressed air; cutting torch man on salvage work; road form setters; brick slingers; hand spikers; power buggy; handling of creosote material; sandblasters; curing of concrete and apply hardner; air and gas tampers; concrete saw; power posthole diggers and green cut men on concrete work.

Group 3 - Powdermen; blasters

DECISION NO. KY79-1032

POWER EQUIPMENT OPERATORS:	Basic Hourly Rates	Fringe Benefits Payments			
		H & W	Pensions	Vacation	Education and/or Appr. Tr.
CLASS A	$11.00	.60	.50		.05
CLASS B	8.41	.60	.50		.05
CLASS C	7.69	.60	.50		.05

CLASSIFICATIONS DEFINITIONS

Class A - Auto patrol, batcher plant, bituminous paver, cableway, central compressor plant, clamshell, concrete mixer (21 cu. ft. or over), concrete pump, crane, crusher plant, derrick, derrick boat, ditching and trenching machine, dragline, dredge operator, dredge engineer, elevating grader and all types of loaders, hoe type machine, hoist (1-drum when used for stack or chimney construction or repair), hoisting engine (2 or more drums), locomotive, motor scraper, carry-all scoop, bulldozer, heavy duty welder, mechanic, orangepeel bucket, pile driver, power blade, motor grader, roller (bituminous), scarifer, shovel, tractor shovel, truck crane, winch truck, push dozer, highlift, forklift (regardless of lift height and except when used for masonry construction), all types of boom cats, core drill, hopto, tow or push boat, A-frame winch truck, concrete paver, gradeall, hoist, hyster, pumpcrete, Ross carrier, boom, tail boom, rotary drill, hydro hammer, mucking machine, rock spreader attached to equipment, scoopmobile, KeCal loader, tower cranes (French, German and other types), hydrocrane, backfiller, gurries, sub-grader;

Class B - All air compressors (over 900 cu. ft. per min.), bituminous mixer, joint sealing machine, concrete mixer (under 21 cu. ft.), form grader, roller (rock), tractor (50 hp and over), bull float, finish machine, outboard motor boat, flexplane, fireman, boom type tamping machine, truck crane oiler, greaser on grease facilities servicing heavy equipment, switchman or brakeman, mechanic helper, whirley oiler, self-propelled compactor, tractair and road widening trencher and farm tractor with attachments except backhoe, highlift and end loader, elevator (regardless of ownership when used for hoisting any building material), hoisting engine (1-drum or buck hoist), forklift (when used for masonry construction), well points, grout pump, throttle-valve man, tugger, electric vibrator compactor;

Class C - Bituminous distributor, cement gun, conveyor, mud jack, paving joint machine, roller (earth), tamping machine, tractors (under 50hp), vibrator, oiler, concrete saw, burlap and curing machine, hydro-seeder, power form handling equipment, deckhand steersman, hydraulic post driver, drill helper.

DECISION NO. KY79-1032

TRUCK DRIVERS:	Basic Hourly Rates	Fringe Benefits Payments			
		H & W	Pensions	Vacation	Education and/or Appr. Tr.
Truck helper & warehouseman	$ 8.36	d	e	f	
Driver, 3 tons and under, greaser, tire changer and mechanic helper	8.48	d	e	f	
Driver, over 3 tons, semi-trailer or pole trailer, dump trucks, tandem axle, and farm tractor when used to pull building material or equipment	8.59	d	e	f	
Driver, concrete mixer trucks (all types, hauling only on jobsites)	8.66	d	e	f	
Driver, Euclid & other heavy earth moving equipment and low boy, winch truck and A-frame & Monorail truck when used to transport building materials	8.76	d	e	f	

DECISION NO. KY79-1032

FOOTNOTES:

a. Seven Paid Holidays: New Year's Day; Memorial Day; Independence Day; Labor Day; Thanksgiving Day; Friday after Thanksgiving Day; Christmas Day.

b. Employer contributes 4% of the basic hourly rate for 5 years or more of service, or 2% of the basic hourly rate for 6 months to 5 years of service as Vacation Pay Credit.

d. Employer contributes $21.00 per week per employee whose name appears on the payroll and has been employed a minimun of 20 work days within any 90 consecutive day period.

e. Employer contributes $20.00 per week per employee whose name appears on the payroll and has been employed a minimum of 20 work days within any 90 consecutive day period.

f. Employee who has been regularly employed on a project for one year and who has worked a minimum of 1200 hours during the year shall receive vacation and pay equal to 40 hours.

SUPERSEDEAS DEDISION

STATES: Kentucky & Tennessee

LOCATION: Fort Campbell (Located in Christian County, Ky. and Montgomery County, Tn.)

DECISION NO.: KY79-1033

DATE: Date of Publication

Supersedes Decision Number KY77-1084, dated June 24, 1977, in 42 FR 32473.

DESCRIPTION OF WORK: Building Construction (does not include single family homes and garden type apartments up to and including 4-stories).

	Basic Hourly Rates	Fringe Benefits Payments			
		H & W	Pensions	Vacation	Education and/or Appr. Tr.
ASBESTOS WORKERS	$11.55	.55	.65		.05
BOILERMAKERS:					
Kentucky portion	10.70	1.05	1.10		.02
Tennessee portion	10.70	1.05	1.10		.02
BRICKLAYERS, STONE MASONS, MARBLE MASONS, TILE SETTERS, TERRAZZO WORKERS, CEMENT MASONS & PLASTERERS	9.05	.40	.30		
CARPENTERS & SOFT FLOOR LAYERS	9.80	.45	.25		.02
ELECTRICIANS:					
Wiremen:					
Kentucky portion	10.95	.50	13%		¾ of 1%
Tennessee portion	10.20	.55	3% + .25		¾ of 1%
Cable Splicers:					
Kentucky portion	11.20	.50	13%		¾ of 1%
Tennessee portion	10.45	.55	3% + .25		¾ of 1%
ELEVATOR CONSTRUCTORS:					
Mechanics	8.945	.745	.56	4%+a+b	.025
Helpers	6.26	.745	.56	4%+a+b	.025
Probationary Helpers	4.47				
GLAZIERS	8.05	.50	.50		.02
IRONWORKERS:					
Structural, Ornamental, Reinforcing, Machinery Mover, Rigger, Machinery Erector, & Fence Erector	10.40	.70	.65		.10
Sheeter	10.65	.70	.65		.10
LATHERS	8.65		.20	.65	.01
MILLWRIGHTS & PILEDRIVERS	10.25	.45	.25		.02
PAINTERS:					
Brush & Roller	9.40		.40		.10
Spray work, Drywall finishing	9.65		.40		.10
Structural steel, Swing stage & chair, & Motor stage	9.75		.40		.10
Paperhanger	9.90		.40		.10
Sandblasting	10.15		.40		.10
PLUMBERS & PIPEFITTERS	10.44	.55	.55		.07

DECISION NO. KY79-1033

	Basic Hourly Rates	Fringe Benefits Payments H & W	Pensions	Vacation	Education and/or Appr. Tr.
ROOFERS:					
Composition, Slate, Tile, Asbestos, Asphalt Shingles	$ 8.00	.50	.35	.15	
SHEET METAL WORKERS	11.01	.53	.31		.04
SPRINKLER FITTERS:					
Kentucky portion	12.10	.75	1.05		.08
Tennessee portion	10.80	.75	1.05		.08

WELDERS: Receive rate prescribed for craft performing operation to which welding is incidental.

FOOTNOTES:

a. Seven Paid Holidays: New Year's Day; Memorial Day; Independence Day; Labor Day; Thanksgiving Day; Friday after Thanksgiving Day; Christmas Day.

b. Employer contributes 4% of the basic hourly rate for 5 years or more of service, or 2% of the basic hourly rate for 6 months to 5 years of service as Vacation Pay Credit.

DECISION NO. KY79-1033

	Basic Hourly Rates	Fringe Benefits Payments H & W	Pensions	Vacation	Education and/or Appr. Tr.
LABORERS:					
Group 1	$ 6.98	.35	.47		
Group 2	7.13	.35	.47		
Group 3	7.48	.35	.47		

LABORERS' CLASSIFICATION DEFINITIONS

Group 1 - General laborers; wrecking labor on buildings, clearing right-of-way and building site; carpenter tenders; truck spotters and dumpers; axe and cross cut saw filer; concrete pudlers and form strippers.

Group 2 - All power driven tools; hod carriers; mason tenders; finisher tenders; mortar mixers; jack hammers; vibrators; wagon drill; core drill; test drill; well drill; concrete pump machine; tunnel boring machine; men in tunnel and crib ditch work; signal men; riprap rock setters and handlers; asphalt rakers; tampers and smoothers; pipelayers; grout pump men; chain saw; pipe clearing; doping and wrapping; swampers and straight cable hooking; cement guns; grade checkers machine excavating; batch plant scale man; sand hog free air; sand hog compressed air; cutting torch man on salvage work; road form setters; brick slingers; hand spikers; power buggy; handling of creosote material; sandblasters; curing of concrete and apply hardner; air and gas tampers; concrete saw; power posthole diggers and green cut men on concrete work.

Group 3 - Powdermen; blasters

DECISION NO. KY79-1033

POWER EQUIPMENT OPERATORS:

(KENTUCKY PORTION)

	Basic Hourly Rates	Fringe Benefits Payments			
		H & W	Pensions	Vacation	Education and/or Appr. Tr.
CLASS A	$11.00	.60	.50	-	.05
CLASS B	8.41	.60	.50		.05
CLASS C	7.69	.60	.50		.05

CLASSIFICATIONS DEFINITIONS

Class A - Auto patrol, batcher plant, bituminous paver, cableway, central compressor plant, clamshell, concrete mixer (21 cu. ft. or over), concrete pump, crane, crusher plant, derrick, derrick boat, ditching and trenching machine, dragline, dredge operator, dredge engineer, elevating grader and all types of loaders, hoe type machine, hoist (1-drum when used for stack or chimney construction or repair), hoisting engine (2 or more drums), locomotive, motor scraper, carry-all scoop, bulldozer, heavy duty welder, mechanic, orangepeel bucket, pile driver, power blade, motor grader, roller (bituminous), scarifer, shovel, tractor shovel, truck crane, winch truck, push dozer, highlift, forklift (regardless of lift height and except when used for masonry construction), all types of boom cats, core drill, hopto, tow or push boat, A-frame winch truck, concrete paver, gradeall, hoist, hyster, pumpcrete, Ross carrier, boom, tail boom, rotary drill, hydro hammer, mucking machine, rock spreader attached to equipment, scoopmobile, KeCal loader, tower cranes (French, German and other types), hydrocrane, backfiller, gurries, sub-grader;

Class B - All air compressors (over 900 cu. ft. per min.), bituminous mixer, joint sealing machine, concrete mixer (under 21 cu. ft.), form grader, roller (rock), tractor (50 hp and over), bull float, finish machine, outboard motor boat, flexplane, fireman, boom type tamping machine, truck crane oiler, greaser on grease facilities servicing heavy equipment, switchman or brakeman, mechanic helper, whirley oiler, self-propelled compactor, tractair and road widening trencher and farm tractor with attachments except backhoe, highlift and end loader, elevator (regardless of ownership when used for hoisting any building material), hoisting engine (1-drum or buck hoist), forklift (when used for masonry construction), well points, grout pump, throttle-valve man, tugger, electric vibrator compactor;

Class C - Bituminous distributor, cement gun, conveyor, mud jack, paving joint machine, roller (earth), tamping machine, tractors (under 50hp), vibrator, oiler, concrete saw, burlap and curing machine, hydro-seeder, power form handling equipment, deckhand steersman, hydraulic post driver, drill helper.

DECISION NO. KY79-1033

POWER EQUIPMENT OPERATORS:

(TENNESSEE PORTION)

	Basic Hourly Rates	Fringe Benefits Payments			
		H & W	Pensions	Vacation	Education and/or Appr. Tr.
CLASS A	$ 9.60	.40	.40		
CLASS B	9.06	.40	.40		
CLASS C	8.53	.40	.40		
CLASS D	8.10	.40	.40		

CLASS A: Shovels, backhoes, draglines, cranes, derricks, gantreys, gradall, winches with boom, motor patrol, trenching machines (18" or over), pile driver, tug boat operator, mechanic, forklift, central mixing plant, locomotive engineers, straddle carrier, core drills, tower cranes, hydro-cranes, austin western and all similar type cranes, drilling of piling (all types), tugger, hoist more than one drum, earth freezing equipment, sideboom, dredge operator & engineer, hopto, pump crete, mucking machine, cableway, finishing machine, central compressor, derrick boat, concrete pump, welders, helicopters, de-watering system (all types) sweeper, bulldozers, pans, pulls, scrapers, traxcavators, front end loaders, concrete placing machines, two tower cranes requiring three operators.

CLASS B: Trenching machines (18" or smaller), tandem rollers, pavers, mixer mobiles, backfillers, blade graders, dinkey operators, elevating graders, winches operated from trucks and tractors without booms, distributors bituminous surfaces, hoist (1) drum, mixers, grout pumps, motor boat, switchman, brake man, elevator earth compactors, tractors, conveyors.

CLASS C: Locomotive fireman on boilers, air compressor (stationary), earth drills, scale operators, motor crane driver and oiler, pumps 4" and larger, oilers on gantreys, greasers, drill helpers.

CLASS D: Air compressor, mechanic helper, firemen (low pressure pumps under 4") oilers, welding machine operators, deckhand.

SUPERSEDEAS DECISION

STATE: KENTUCKY COUNTY: HENDERSON
DECISION NO.: KY79-1034 DATE: DATE OF PUBLICATION
Supersedes Decision Number KY77-1127, dated September 30, 1977, in 42 FR 53051.
DESCRIPTION OF WORK: Building Construction (does not include single family homes and garden type apartments up to and including 4-stories).

	Basic Hourly Rates	Fringe Benefits Payments			
		H & W	Pensions	Vacation	Education and/or Appr. Tr.
ASBESTOS WORKERS	$11.70	.45	1.00		.03
BOILERMAKERS	10.70	1.05	1.10		.02
BRICKLAYERS, STONE MASONS, MARBLE MASONS, PLASTERERS, TILE SETTERS, & TERRAZZO WORKERS	10.19	.40	.30		
CARPENTERS	10.47	.50	1.00		
CEMENT MASONS	10.60	.65	.55		
ELECTRICIANS:					
Wiremen	11.93	.50	3%		1/8 of 1%
Cable splicers	12.18	.50	3%		1/8 of 1%
GLAZIERS	10.905	.48	.50	.25	
IRONWORKERS:					
Structural, Ornamental, & Reinforcing	10.22	.55	.75		.025
MILLWRIGHTS	10.89	.50	.90		
PILEDRIVERMEN	10.72	.50	1.00		
PAINTERS:					
Brush & Rollers	9.65	.65	.30		
Drywall tapers, Paperhangers	9.90	.65	.30		
Sandblasters, Power tools	10.40	.65	.30		
Spray	10.65	.65	.30		
PLUMBERS & PIPEFITTERS	12.58	.75	.90		.10
ROOFERS	10.63	.60	.50		
SHEET METAL WORKERS	12.42	.55	.55		.03
SPRINKLER FITTERS	12.10	.75	1.05		.08

WELDERS - Receive rate prescribed for craft performing operation to which welding is incidental.

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DECISION NO. KY79-1034

LABORERS:	Basic Hourly Rates	Fringe Benefits Payments			
		H & W	Pensions	Vacation	Education and/or Appr. Tr.
GROUP A	$ 8.30	.70	.50		.09
GROUP B	8.50	.70	.50		.09
GROUP C	8.60	.70	.50		.09
GROUP D	9.30	.70	.50		.09

GROUP A
Building & Construction Laborers, Scafold Builders other than for Mason or Plasterers, Ironworkers' Helpers, Mechanic Helpers, Mechanic Tenders, Window Washers & Cleaners, Roofers' Helpers, Railroad Laborer, Masonary Wall Washers (interior & exterior), Cement Finishers' Helpers, Carpenters helper, all portable water pumps with discharge up to 3".

GROUP B
Waterproofing Handling of Cresote Lumber on like treated material (excluding railroad material), Asphalt Rakers & Lutemen, Kettlemen, Air Tool Operating, Vibrators, Chipping Hammer Operator, Jackmen & Sheeting Men Working in ditches deeper than 6', Laborers working in ditches 6' in depth or deeper, assembly of Unicrete Pump, Chain Saw Operators, Tile Layers (sewer or field), Sewer Pipe Layers (metallic & non-metallic), Motor-driven Wheelbarrows & Concrete Buggies, Hyster Opera-pump Crete Assemblers, Conveyors Assemblers, Core Drill Operators, Cement, Lime, or Silica Clay Handlers (bulk or bag), Pneumatic Spikers, Deck, Engine & Winch Operator, Water Main & Cable Ducking (metallic & non-metallic)

GROUP C
Plaster Tenders, Mortar Mixers, Welders (acetylene or electric), Cutting Torch or Burner, Cement Nozzle Laborers, Cement Gun Operator, Scaffold Builders when working for Plasterer or Masons, Mason Tenders.

GROUP D
Dynamite Men

DECISION NO. KY79-1034

POWER EQUIPMENT OPERATORS:	Basic Hourly Rates	Fringe Benefits Payments			
		H & W	Pensions	Vacation	Education and/or Appr. Tr.
CLASS A	$11.00	.60	.50		.05
CLASS B	8.41	.60	.50		.05
CLASS C	7.69	.60	.50		.05

CLASSIFICATIONS DEFINITIONS

Class A - Auto patrol, batcher plant, bituminous paver, cableway, central compressor plant, clamshell, concrete mixer (21 cu. ft. or over), concrete pump, crane, crusher plant, derrick, derrick boat, ditching and trenching machine, dragline, dredge operator, dredge engineer, elevating grader and all types of loaders, hoe type machine, hoist (1-drum when used for stack or chimney construction or repair), hoisting engine (2 or more drums), locomotive, motor scraper, carry-all scoop, bulldozer, heavy duty welder, mechanic, orangepeel bucket, pile driver, power blade, motor grader, roller (bituminous), scarifer, shovel, tractor shovel, truck crane, winch truck, push dozer, highlift, forklift (regardless of lift height and except when used for masonry construction), all types of boom cats, core drill, hopto, tow or push boat, A-frame winch truck, concrete paver, gradeall, hoist, hyster, pumporete, Ross carrier, boom, tail boom, rotary drill, hydro hammer, mucking machine, rock spreader attached to equipment, scoopmobile, KeCal loader, tower cranes (French, German and other types), hydrocrane, backfiller, gurries, sub-grader;

Class B - All air compressors (over 900 cu. ft. per min.), bituminous mixer, joint sealing machine, concrete mixer (under 21 cu. ft.), form grader, roller (rock), tractor (50 hp and over), bull float, finish machine, outboard motor boat, flexplane, fireman, boom type tamping machine, truck crane oiler, greaser on grease facilities servicing heavy equipment, switchman or brakeman, mechanic helper, whirley oiler, self-propelled compactor, tractair and road widening trencher and farm tractor with attachments except backhoe, highlift and end loader, elevator (regardless of ownership when used for hoisting any building material), hoisting engine (1-drum or buck hoist), forklift (when used for masonry construction), well points, grout pump, throttle-valve man, tugger, electric vibrator compactor;

Class C - Bituminous distributor, cement gun, conveyor, mud jack, paving joint machine, roller (earth), tamping machine, tractors (under 50hp), vibrator, oiler, concrete saw, burlap and curing machine, hydro-seeder, power form handling equipment, deckhand steersman, hydraulic post driver, drill helper.

DECISION NO. KY79-1034

TRUCK DRIVERS:	Basic Hourly Rates	Fringe Benefits Payments			
		H & W	Pensions	Vacation	Education and/or Appr. Tr.
GROUP 1	$ 7.29	.35	.35		
GROUP 2	7.41	.35	.35		
GROUP 3	7.52	.35	.35		
GROUP 4	7.60	.35	.35		
GROUP 5	7.64	.35	.35		
GROUP 6	7.35	.35	.35		
GROUP 7	7.47	.35	.35		
GROUP 8	7.11	.35	.35		
GROUP 9	7.19	.35	.35		

GROUP 1

Single axle straigh truck, wet or dry, over 3(34E) batches

GROUP 2

Tandem trucks or dog-legs. trucks over 15 ton payload, single-axle semi-truck (3 axle unit) Low-boys single axle (3-axle unit) Low-boys single axle (3-axle unit), Winch trucks or A-frames when used to transport material; Batch truck wet or dry, over 3(34E) batches, farm tractors pulling trailers

GROUP 3

Tandem axle semi-trucks (4-axle unit), drivers on equipment when not self-loaded or pusher loaded such as Koehring or similar dumpsters, track trucks Euclid bottom dump & hug bottom dump, Tournatrailers, Tournarockers or similar equipment 12 cu yds. & under; Low-Boys, Tandem axle (4 a le unit), drivers on pavement breakers

GROUP 4

Tandem-Tandem Semi-Trucks (5-axle unit Low Boys Tandem (5-axle unit)

GROUP 5

Drivers on equipment when not self-loaded or pusher loaded on such Koehring or similar dumpsters, track trucks Euclid bottom dump & hug bottom dump, Toutnatrailers, Tounarockers or similar equipment over 12. cu. yds. Truck Mechanic Drivers on mixer trucks all types

GROUP 6

Drivers on bitumininous distributors two-man

GROUP 7

Drivers on bituminous distributors one-man

GROUP 8

Drivers of pickup trucks when hauling equip., supplies & material to & from & on the job site.

GROUP 9

Helpers, Greasers, Tire Men & Members tenders batch boards

SUPERSEDEAS DECISION

STATE: KENTUCKY
COUNTIES: BOONE, CAMPBELL, KENTON, PENDLETON
DECISION NO.: KY79-1035
DATE: DATE OF PUBLICATION
Supersedes Decision Number KY77-1107, dated August 26, 1977, in 42 FR 43331.
DESCRIPTION OF WORK: Building Construction (does not include single family homes and garden type apartments up to and including 4-stories).

	Basic Hourly Rates	Fringe Benefits Payments			
		H & W	Pensions	Vacation	Education and/or Appr. Tr.
ASBESTOS WORKERS	$13.16	.75	1.00		.02
BOILERMAKERS	10.70	1.05	1.10		.02
BRICKLAYERS & STONE MASONS	12.845	.65	.35		.02
CARPENTERS	12.20	.75	.85		.075
CEMENT MASONS	12.08	.80	.95		.20
ELECTRICIANS	12.90	.70	3% + .60		½ of 1%
ELEVATOR CONSTRUCTORS:					
Mechanics	11.78	.745	.56	a + b	.035
Helpers	8.25	.745	.56	a + b	.035
Probationary helpers	5.89				
GLAZIERS	13.10		.60		.01
IRONWORKERS:					
Structural & Ornamental	12.33	.90	1.20		.03
Reinforcing	11.53	.90	2.00		.02
LATHERS	13.32		.25		.025
LINE CONSTRUCTION:					
Linemen & Machine operators	12.90	.70	3% + .60		½ of 1%
Groundmen	9.68	.70	3% + .60		½ of 1%
MARBLE SETTERS	12.285	.65	.35		
MARBLE SETTER FINISHERS	11.285				
MILLWRIGHTS	12.39	.50	1.10		.10
PAINTERS:					
Brush, roller, taping, paperhanging, wall covering, washing	12.35		.25		
Steamcleaning (40 ft. or over)	12.50		.25		
Spray	12.75		.25		
Drywall machine operators	12.85		.25		
Sandblasting & waterblasting	13.15		.25		
PILEDRIVERMEN	12.20	.75	.85		.075
PIPEFITTERS	13.00	1.025	1.30		.08
PLASTERERS	12.845		.75		.02

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DECISION NO. KY79-1035

	Basic Hourly Rates	Fringe Benefits Payments			
		H & W	Pensions	Vacation	Education and/or Appr. Tr.
PLUMBERS & GAS FITTERS	$12.82	1.05	1.20		.05
RESILIENT FLOOR LAYERS	10.55	.75	.85		.05
ROOFERS	13.32		.85		.01
SHEET METAL WORKERS	11.935	1.00	.81		.04
SPRINKLER FITTERS	12.10	.75	1.05		.08
TERRAZZO WORKERS	12.235	.65	.35		
TERRAZZO FINISHERS	11.235				
TILE SETTERS	12.235	.65	.35		
TILE FINISHERS	11.185				

WELDERS - Receive rate prescribed for craft performing operation to which welding is incidental.

FOOTNOTES:

a. Seven Paid Holidays: New Year's Day; Memorial Day; Independence Day; Labor Day; Thanksgiving Day; Friday after Thanksgiving Day; Christmas Day.

b. Employer contributes 8% of the basic hourly rate of employees with 5 years or more of service, or 6% of the basic hourly rate of employees with 6 months to 5 years of service as Vacation Pay Credit.

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DECISION NO. KY79-1035

LABORERS - Boone, Campbell, & Kenton Counties:	Basic Hourly Rates	Fringe Benefits Payments			
		H & W	Pensions	Vacation	Education and/or Appr. Tr.
Group A	$10.50	.70	.70		.10
Group B	10.60	.70	.70		.10
Group C	10.65	.70	.70		.10
Group D	10.70	.70	.70		.10
Group E	10.85	.70	.70		.10
Group F	11.00	.70	.70		.10
Group G	11.25	.70	.70		.10

CLASSIFICATIONS DEFINITIONS

Group A - Common laborers, cement mason tenders, hand operated mechanical mule, mechanical sweeper, signal man;

Group B - Bottom man, pipe layers;

Group C - Burning torch operator, jack hammer, mechanical and air tamper operator, mechanical concrete buggies, power operated mechanicas mule, concrete pump hose man, vibrator man;

Group D - Plaster tender, mason tender, stone mason tender, bottom jackhammer man;

Group E - Plaster mixer pump operator;

Group F - Tunnel laborer;

Group G - Gunnite nozzle operator.

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DECISION NO. KY79-1035

LABORERS: Pendleton County	Basic Hourly Rates	Fringe Benefits Payments			
		H & W	Pensions	Vacation	Education and/or Appr. Tr.
GROUP I	$ 7.60	.35	.47		
GROUP II	8.00	.35	.47		
GROUP III	8.20	.35	.47		
GROUP IV	8.30	.35	.47		
GROUP V	8.80	.35	.47		
GROUP VI	9.10	.35	.47		

LABORERS' CLASSIFICATIONS DEFINITIONS

GROUP I - General laborers, water boys, concrete pouring, concrete forms stripping and wrecking, hand digging and backfilling of ditches, clearing of right-of-ways and building sites, wood sheeting and shoring, signalman for concrete bucket, and general cleaning.

GROUP II - All air tool operators, air track drills, asphalt rakers, barco tampers, batcher plant and scale man, chain saw, concrete saw, electric hand grinder, all electric bush and chipping hammers, flagman, forklift operators, form setter (street or highway), gunnite laborers, hand spiker, Introflax burning rod, joint makers, mason tenders, pipe layers, plasterer tenders, powderman helpers, power driven Georgia Buggies, power posthole digger, railroad laborers, sandblaster laborers, scow man and deck hand, signal man, sweeper and cleaner machines, vibrator operators, walk behind trenching machines, mortar mixer machines, water pumpman.

GROUP III - Gunnite nozzleman and gunnite nozzle machine operator, sand blaster nozzleman, concrete or grout pumpman, plaster pumpman.

GROUP IV - Powderman and Blaster.

GROUP V - Caisson holes (6 ft. & over) pressure and free air including tools.

GROUP VI - Tunnel man and tunnel sand miner, cofferdam (pressure and free air) sand hog or mucker (pressure or free air.

DECISION NO. KY79-1035

POWER EQUIPMENT OPERATORS:	Basic Hourly Rates	Fringe Benefits Payments			
		H & W	Pensions	Vacation	Education and/or Appr. Tr.
GROUP A	$12.61	.66	1.00		.11
GROUP B	12.45	.66	1.00		.11
GROUP C	12.09	.66	1.00		.11
GROUP D	11.31	.66	1.00		.11
GROUP E	10.98	.66	1.00		.11
GROUP F	9.03	.66	1.00		.11

GROUP A: A-frame; Air compressor on steel erection; all rotary drills used on caisson work for foundations and substructure work; Boiler operator or compressor operator when compressor or boiler is mounted on crane (piggyback operation); Boom trucks (all types); Cableways; Cherry pickers; Combination concrete mixer and tower; Concrete pumps; Cranes (all types); Derricks (all types); Draglines; Dredge (dipper, clam or suction) 3 man crew; Elevating grader or euclid loader; Floating equipment; Gradalls; Helicopter operator, (hoisting builders materials); Helicopter winch operator (hoisting builders materials); Hoes (all types); Hoisting engines (two or more drums); Lift slab or panel jack operator; Locomotives (all types); Maintenance engineer (mechanic or welder); Mixer paving (multiple drum); Mobile concrete pumps with boom; Panelboard (all types on site); Pile driver; Power shovels; Side booms; Slip form pavers; Straddle carriers (building construction on site); Trench machines (over 24" wide); Tug boat

GROUP B: Asphalt paver; Bulldozer; CMI type equipment; End loaders; Kohlman type loaders (dirt loading); Mucking machines; Power grader; Power scoops; Power scrapers; Push cats; Lead greaseman

GROUP C: Air compressor, pressurizing shafts or tunnels; All asphalt rollers; Fork lifts; Hoist (one drum); House elevators; Man lift; Power boilers (over 15 lbs., pressure); Pump operator installing or operating well points or other type of dewatering system; Pumps (4" and over discharge); Submersible pumps (4" and over discharge); Trenchers (24" and under)

GROUP D: Compressors on building construction; Conveyors building material; Gunite machines; Mixers (cap., more than one bag); Mixers (one bag cap., side loader); Post driver; Post hole digger; Pavement breaker (hydraulic or cable); Road widening trencher; Rollers; Welder operator; Generators

GROUP E: Backfillers and tampers; Batch plant; Bar and joint installing machine; Bull floats; Burlap and curing machines; Clefplanes; Concrete spreading machines; Crushers; Drum fireman asphalt; Farm type tractors, pulling attachments; Finishing machines; Form trenchers; High pressure pumps (over ½" discharge); Hydro seeders; Self propelled powered spreader; Self propelled sub-grader; Tire repairman; Tractors (pulling sheep foot roller or grader); Vibratory compactors with integral power); Deckhand

GROUP F: Oiler, Helper, Signalman; Light plant operator; Power driven heaters (oil fired); Power boilers (less than 15 lbs., pressure); Pumps (under 4" discharge); Submersible pumps (under 4" discharge); Inboard, Outboard motor boat launch

SUPERSEDEAS DECISION

STATE: Montana
COUNTIES: Statewide
DECISION NUMBER: MT79-5101
DATE : Date of Publication
Supersedes Decision MT78-5121 dated August 4, 1978, in 43 FR 34684
DESCRIPTION OF WORK: Heavy and Highway Construction

	Basic Hourly Rates	Fringe Benefits Payments			
		H & W	Pensions	Vacation	Education and/or Appr. Tr.
CARPENTERS:					
Carpenters	$ 9.73	.70	.75		.02
Piledrivermen; Sawfilers, Carpenters on charred and creosote wood	9.88	.70	.75		.02
CEMENT MASONS:					
Cement Masons	8.90	.75	.25		
Grinder, Bush Hammer and Clipping Fan preparing finished surface; Epoxy	9.05	.75	.25		
ELECTRICIANS:					
Beaverhead, Deer Lodge, Granite, Jefferson, Madison, Silver Bow and Powell Counties	11.65	.60	3%+.50		1/2%
Big Horn, Carter, Carbon, Dawson, Fallon, Golden Valley, Musselshell, Powder River, Prairie, Rosebud, Stillwater, Treasure, Wilbaux and Yellowstone Counties					
Electricians	11.82	.45	3%+.50		1/2%
Cable Splicers	12.27	.45	3%+.50		1/2%
Blaine, Hill, Liberty and Phillips Counties					
Contracts over $150,000	11.60	.60	3%+.75		1/2%
Contracts under $150,000	11.00		3%+.75		1/2%
Broadwater, Lewis and Clark and Meagher Counties	11.05	.60	3%+.50		1/2%
Cascade, Chouteau, Glacier, Judith-Basin, Pondera, Teton and Toole Counties					
Electricians	11.60	.60	3%+.75		1/2%
Cable Splicers	11.85	.60	3%+.75		1/2%
Custer and Garfield Counties	9.40		3%		1/2%
Daniels, McCone, Richland, Roosevelt, Sheridan and Valley Counties					
Electricians	10.15	.60	3%+.75		1/2%
Cable Splicers	10.40	.60	3%+.75		1/2%
Fergus, Petroleum and Wheatland Counties					
Contracts over $30,000	10.85	.45	3%+.50		1/2%
Contracts under $30,000	9.25	.45	3%+.50		1/2%

DECISION NO. MT79-5101

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	Basic Hourly Rates	Fringe Benefits Payments: H & W	Pensions	Vacation	Education and/or Appr. Tr.
ELECTRICIANS: (Cont'd)					
Flathead, Lake, Lincoln, Mineral, Missoula, Ravalli and Sanders Counties					
Electricians	$ 11.25	.60	3%+.25		1/2%
Cable Splicers	11.85	.60	3%+.25		1/2%
Gallatin County	11.20	.45	3%		1/2%
Park and Sweetgrass Counties	10.45	.45	3%+.50		1/2%
IRONWORKERS:					
Beaverhead, Broadwater, Deer Lodge, Gallatin, Granite, Jefferson, Lewis and Clark (Southern half including Wolf Creek), Madison, Park, Powell, Ravalli and Silver Bow Counties	11.26	.70	1.25		.05
Flathead, Glacier, Lake, Lincoln, Mineral, Missoula and Sanders Counties	12.60	.93	1.45		.10
Remaining Counties (including Northern half of Lewis and Clark County)	11.26	.70	1.25		.05
PAINTERS:					
Silver Bow County, South part of Jefferson County, from a line running due west from the south limits of Tosten, south part of Broadwater County, from a line running east and west through the north limits of Tosten, the west part of Madison County, from a line running north and south through the west limits of Harrison - Beaverhead County	9.23	.42	.35		
Big Horn, Carbon, Carter, Custer, Dawson, Fallon, Golden Valley, Musselshell, Powder River, Prairie, Rosebud, Stillwater, Sweetgrass, Treasure, Wheatland (south of the City of Harlowtown), Wilbaux and Yellowstone Counties					
Brush, Roller	9.26	.56	.20		
Spray (not steel), Sandblaster	10.24	.56	.20		
Steel (brush or Roller	9.51	.56	.20		
Spray (structural steel and tanks), Sandblaster (structural steel and tanks)	10.49	.56	.20		

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	Basic Hourly Rates	Fringe Benefits Payments: H & W	Pensions	Vacation	Education and/or Appr. Tr.
PAINTERS: (Cont'd)					
Deer Lodge County and the southern part of Granite County from a line east-west through the southern limits of Philipsburg					
Painter	$ 9.02				
Paint Mitts	9.52				
Application of cold tar products, epoxies, polyurethanes and acid resistant paints; Water sandblasting and steam cleaning; Stacks and steeples; Brushing of steel; Spraying and airless spraying; Work over 30 feet	11.80				
Cascade, Chouteau (south of a line running East and West through the southern limits of Big Sandy), Daniels, Fergus, Glacier, (excluding Glacier National Park), Garfield, Judith-Basin, Lewis and Clark (northern portion from a line running East and West through the northern limits of Craig), McCone, Phillips, Pondera, Petroleum, Richland, Roosevelt, Sheridan, Teton, Toole, Valley and Wheatland (northern area from a line running East and West through the southern limits of Harlowtown) Counties:					
Painter, Brush, Preparatory work, Pot Tender, Parking lot and related work, Roller up to 9 inches	9.77	.56	.40		1%
Paperhanger, Brush on steel	10.27	.56	.40		1%
Water and sandblasting, Application of cold tar products, Epoxies, Polyurethanes and acid resistant paints, Spraying and airless spray	12.02	.56	.40		1%
Roller over 9" long	13.37	.56	.40		1%
Hand Taper	10.17	.56	.40		1%
Machine Taper	11.42	.56	.40		1%

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	Basic Hourly Rates	Fringe Benefits Payments			
		H & W	Pensions	Vacation	Education and/or Appr. Tr.
PAINTERS: (cont'd)					
Broadwater, Gallatin, Jefferson (northern area from a line running east and west 5 miles south of the southern City limits of Boulder), Lewis and Clark (southern portion from a line running east and west thru the southern limits of Craig), Madison (east of the west City limits of Harrison), Meagher, Park, Powell (northern area from a line running east and west through the southern City limits of Helmsville)					
Brush, Preparatory work, Pot tender, Parking lot striping and related work	$ 9.27	.56	.40		1%
Spraying and Airless Spray	11.52	.56	.40		1%
Sandblating, Waterblasting	11.52	.56	.40		1%
Structural steel brush	9.77	.56	.40		1%
Blaine, Hill, Liberty and Chouteau (north of the southern limits of the City of Big Sandy) Counties	8.40				
Flathead, Granite (northern area north limits of Phillipsburg), Lake southern area including the City of Ronan), Lincoln, Mineral, Missoula, Powell (northern area through south limits of Helmsville), Ravalli and Sanders Counties	10.20	.44	.40		.04
PLUMBERS:					
Flathead, Lake, Lincoln, Mineral, Missoula and Sanders Counties	12.93	.65	.70		.10
Blaine, Cascade, Chouteau, Fergus, Glacier, Hill, Judith-Basin, Liberty, McCone, Meagher, Phillips, Pondera, Roosevelt, Teton, Toole and Valley Counties	12.60	.75	1.10		.14

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	Basic Hourly Rates	Fringe Benefits Payments			
		H & W	Pensions	Vacation	Education and/or Appr. Tr.
PLUMBERS: (Cont'd)					
Beaverhead, Broadwater, Deer Lodge, Gallatin, Granite, Jefferson, Lewis and Clark, Madison, Park, Powell, Silver Bow and Sweetgrass Counties	$ 12.75	.70	.85		.10
Big Horn, Carbon, Carter, Custer, Daniels, Dawson, Fallon, Garfield, Golden Valley, Musselshell, Petroleum, Powder River, Prairie Richland, Rosebud, Sheridan, Stillwater, Treasure, Wheatland, Wibaux and Yellowstone Counties	12.55	1.00	.90		.10
SHEET METAL WORKERS:					
Broadwater, Jefferson (including north half of the City of Boulder), Lewis and Clark and Meagher Counties	10.31	.77	.25		.10
Flathead, Lake, Lincoln, Mineral, Missoula, Ravalli and Sanders Counties	12.12	.89	.25		.11
Big Horn, Carbon, Carter, Custer, Daniels, Dawson, Fallon, Fergus, Gallatin, Garfield, Golden Valley, McCone, Musselshell, Petroleum, Phillips, Powder River, Park, Prairie, Richland, Roosevelt, Rosebud, Sheridan, Stillwater, Sweetgrass, Valley, Wheatland, Wibaux, Treasure and Yellowstone Counties	10.805	.68	3%+.725		.23
Blaine, Cascade, Chouteau, Glacier, Hill, Judith-Basin, Liberty, Pondera, Teton and Toole Counties	11.43	.66	.25		.08
Beaverhead, Deer Lodge, Granite, Jefferson (southern half), Madison, Powell and Silver Bow Counties	12.27	.44	.44		.03

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LABORERS	Basic Hourly Rates	Fringe Benefits Payments: H & W	Pensions	Vacation	Education and/or Appr. Tr.
Asphalt Raker	$ 8.85	.60	.50		.05
Axeman	8.60	.60	.50		.05
Burning Bar	8.76	.60	.50		.05
Car and Truck Loaders, Scissorman	8.60	.60	.50		.05
Caisson Workers (free air)	8.76	.60	.50		.05
Carpenter Tender	8.60	.60	.50		.05
Cement Handlers	8.76	.60	.50		.05
Cement Mason Tender	8.76	.60	.50		.05
Choker Setter	8.76	.60	.50		.05
Chuck Tender and Nipper (above ground)	8.60	.60	.50		.05
Concrete Laborers (wet or dry); Bucketman and Signalman	8.76	.60	.50		.05
Concrete or Asphalt Saw	8.70	.60	.50		.05
Concrete Vibrator (5" and over)	8.90	.60	.50		.05
Cosmolene applying and removing	8.60	.60	.50		.05
Core Drill	9.20	.60	.50		.05
Curb Machine	8.70	.60	.50		.05
Drills, Air-tract, self-propelled, cat or truck mounted air operated	8.86	.60	.50		.05
Drills, Air-tract, with dual mast	8.96	.60	.50		.05
Drills, Air-tract, self-propelled, Mustang type or similar	8.91	.60	.50		.05
Dumpman (spotter)	8.60	.60	.50		.05
Dumpman (grademan)	8.76	.60	.50		.05
Fence Erector and Installer (including installation and erection of fences, guard rails, median rails, reference posts, guide posts and right-of-way markers)	8.60	.60	.50		.05
Form Stripper	8.60	.60	.50		.05
Form Setter	8.70	.60	.50		.05
Grade Setter	8.95	.60	.50		.05
General Laborer	8.60	.60	.50		.05
Hand Faller	8.68	.60	.50		.05
High Scaler	8.96	.60	.50		.05
High Pressure Machine Nozzleman	8.80	.60	.50		.05
Heater Tender	8.60	.60	.50		.05

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LABORERS (Cont'd)	Basic Hourly Rates	Fringe Benefits Payments: H & W	Pensions	Vacation	Education and/or Appr. Tr.
Jackhammer, Pavement Breaker, Wagon Drills, Concrete Vibrator, Mechanic Tamper, Vibrating Roller, hand steered and other power tools	$ 8.76	.60	.50		.05
Landscape Laborers	8.60	.60	.50		.05
Nozzleman-air and water, gunite and Placo Machine	8.70	.60	.50		.05
Pipe Layer (all types)	8.76	.60	.50		.05
Pipe Wrapper	8.76	.60	.50		.05
Post Hole Digger (power auger)	8.70	.60	.50		.05
Power Saw, bucking	8.76	.60	.50		.05
Power saw, falling	8.86	.60	.50		.05
Powderman Helper	8.70	.60	.50		.05
Powderman	9.16	.60	.50		.05
Power Driven Wheelbarrow	8.70	.60	.50		.05
Riprapper	8.76	.60	.50		.05
Riprap Helper	8.60	.60	.50		.05
Scaleman	8.76	.60	.50		.05
Sandblaster	8.80	.60	.50		.05
Sandblaster Tail Hoseman, Pot Tender	8.60	.60	.50		.05
Sodcutter-hand operated	8.60	.60	.50		.05
Spike Driver, single or dual or hand	8.76	.60	.50		.05
Stake Jumper for Equipment	8.60	.60	.50		.05
Switchman	8.76	.60	.50		.05
Tar Pot	8.70	.60	.50		.05
Tool Checker, Tool Houseman	8.60	.60	.50		.05
Welder	9.60	.60	.50		.05

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POWER EQUIPMENT OPERATORS	Basic Hourly Rates	Fringe Benefits Payments			
		H & W	Pensions	Vacation	Education and/or Appr. Tr.
A-Frame Truck Crane, Winch Truck and similar	$ 10.60	.55	.55	.45	.07
Air Compressor, single	10.29	.55	.55	.45	.07
Air Compressor, two or more	10.46	.55	.55	.45	.07
Air Doctor	10.76	.55	.55	.45	.07
Asphalt Paving Machine	10.76	.55	.55	.45	.07
Asphalt Paving Machine Screed	10.76	.55	.55	.45	.07
Automatic Finegrader, Gurries and other similar types	10.89	.55	.55	.45	.07
Belt Finish Machine	10.46	.55	.55	.45	.07
Bit Grinder	10.76	.55	.55	.45	.07
Bituminous Mixer Paving, Travel Plant	10.76	.55	.55	.45	.07
Boring Machine (small), Jeep, Pickup or Farm Tractor mounted	10.35	.55	.55	.45	.07
Boring Machine (large)	10.76	.55	.55	.45	.07
Broom, self-propelled	10.43	.55	.55	.45	.07
Cableway Highline	11.27	.55	.55	.45	.07
Cement Silo	10.55	.55	.55	.45	.07
Central Mixing Plants, Concrete dam and stationary	11.01	.55	.55	.45	.07
Chain Bucket Loader	10.48	.55	.55	.45	.07
Chip or Gravel Spreader, self-propelled	10.48	.55	.55	.45	.07
Concrete Batch Plant, one and two mixers	10.76	.55	.55	.45	.07
Concrete Batch Plant, three and four mixers	10.96	.55	.55	.45	.07
Concrete Batch Plant, five mixers and over	11.16	.55	.55	.45	.07
Concrete Batch Plant Oiler, up to and including two mixers	10.28	.55	.55	.45	.07
Concrete Batch Plant Oiler, three mixers and over	10.59	.55	.55	.45	.07
Concrete Bucket Dispatcher	10.76	.55	.55	.45	.07
Concrete Curing Machine	10.76	.55	.55	.45	.07
Concrete Finish Machine Paving	10.76	.55	.55	.45	.07
Concrete Float-Spreader	10.76	.55	.55	.45	.07
Concrete Mixer, three bags and under	10.35	.55	.55	.45	.07
Concrete Mixer, four bags and over	10.52	.55	.55	.45	.07

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POWER EQUIPMENT OPERATORS (Cont'd)	Basic Hourly Rates	Fringe Benefits Payments			
		H & W	Pensions	Vacation	Education and/or Appr. Tr.
Concrete Power Saw, self-propelled	$ 10.76	.55	.55	.45	.07
Concrete Travel Batcher	10.76	.55	.55	.45	.07
Concrete Conveyor under 40 ft.	10.34	.55	.55	.45	.07
Concrete Conveyor over 40 ft.	11.09	.55	.55	.45	.07
Concrete Pump	11.09	.55	.55	.45	.07
Conveyor Loader Operator, up to and including 42' belt	10.34	.55	.55	.45	.07
Conveyor Loader Operator over 42" belt	10.46	.55	.55	.45	.07
Crane, to and including 80' boom	10.92	.55	.55	.45	.07
Crane, 81 to 130' boom	11.07	.55	.55	.45	.07
Crane, 131' to 150' boom	11.12	.55	.55	.45	.07
Crane, 151' boom and over	11.17	.55	.55	.45	.07
Crane Oiler	10.33	.55	.55	.45	.07
Crane with jibs an additional $.15 per hour					
Crusher	10.76	.55	.55	.45	.07
Crusher Oiler and Helper	10.25	.55	.55	.45	.07
Crusher Conveyor, when required	10.22	.55	.55	.45	.07
Distributor	10.76	.55	.55	.45	.07
DW 10, 15, or 20 tractor pulling Roller	10.48	.55	.55	.45	.07
Electric Overhead Cranes	10.94	.55	.55	.45	.07
Elevating Grader	10.76	.55	.55	.45	.07
Farm type tractor up to and including 50 HP engine	10.22	.55	.55	.45	.07
Farm type tractor, over 50 HP engine	10.30	.55	.55	.45	.07
Field Equipment Serviceman	10.68	.55	.55	.45	.07
Field Equipment Serviceman Helper	10.25	.55	.55	.45	.07
Fireman	10.35	.55	.55	.45	.07
Forklift, on construction job site	10.57	.55	.55	.45	.07
Form Grader	10.53	.55	.55	.45	.07
Gradall	10.76	.55	.55	.45	.07
Grade Setter	10.22	.55	.55	.45	.07

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POWER EQUIPMENT OPERATORS (Cont'd)	Basic Hourly Rates	Fringe Benefits Payments			
		H & W	Pensions	Vacation	Education and/or Appr. Tr.
Heavy Duty Drill, all types	$ 10.76	.55	.55	.45	.07
Heavy Duty Driller Helper	10.35	.55	.55	.45	.07
Herman-Nelson Heaters and similar type	10.30	.55	.55	.45	.07
Hoist, two or more drums	10.76	.55	.55	.45	.07
Helicopter Hoist	11.26	.55	.55	.45	.07
Hot Plant	10.76	.55	.55	.45	.07
Hot Plant Fireman, when in operation	10.76	.55	.55	.45	.07
Hot Plant Oiler, 100 ton per hour or over	10.25	.55	.55	.45	.07
Hydra lift and similar types	10.66	.55	.55	.45	.07
Industrial Locomotive all classes	10.76	.55	.55	.45	.07
Mechanic and/or Welder on job	10.86	.55	.55	.45	.07
Mechanic and/or Welder Helper on job	10.25	.55	.55	.45	.07
Mechanic, Shop (Dec. 1 to April 1)	10.46	.55	.55	.45	.07
Mechanic Helper, Shop (Dec. 1 to April 1)	9.92	.55	.55	.45	.07
Mixermobile	10.84	.55	.55	.45	.07
Motor Patrol	10.89	.55	.55	.45	.07
Mountain Logger or similar type	10.76	.55	.55	.45	.07
Mucking Machine	10.76	.55	.55	.45	.07
Oiler-Driver, Rubber tired Cranes	10.33	.55	.55	.45	.07
Oilers, other than shovels and cranes	10.25	.55	.55	.45	.07
Oiler, Hoist House, Dams	10.66	.55	.55	.45	.07
Pavement Breaker, Emsco and similar	10.76	.55	.55	.45	.07
Paving and Mixing Machine	10.89	.55	.55	.45	.07
Power Auger, large truck or tractor mounted and punch	10.76	.55	.55	.45	.07
Power Mixer, single or double drum	10.76	.55	.55	.45	.07
Power Saw, multiple cut, self-propelled	10.76	.55	.55	.45	.07
Pumpcrete or Grout Machine	10.76	.55	.55	.45	.07
Pumpman	10.29	.55	.55	.45	.07
Push Tractor	10.76	.55	.55	.45	.07

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POWER EQUIPMENT OPERATORS (Cont'd)	Basic Hourly Rates	Fringe Benefits Payments			
		H & W	Pensions	Vacation	Education and/or Appr. Tr.
Quad Cat	$ 11.06	.55	.55	.45	.07
Quad Loader and similar type	11.34	.55	.55	.45	.07
Radiator Repairman	10.57	.55	.55	.45	.07
Raygo Gaint	11.34	.55	.55	.45	.07
Refrigeration Plant	10.76	.55	.55	.45	.07
Retort	10.35	.55	.55	.45	.07
Roller, on blade or hot mix oil paving	10.76	.55	.55	.45	.07
Roller, on other blade or hot mix paving	10.46	.55	.55	.45	.07
Roller, 25 ton or over	10.76	.55	.55	.45	.07
Ross and similar type Carriers, on construction site	10.76	.55	.55	.45	.07
Rubber-tired Doxer	10.76	.55	.55	.45	.07
Rubber-tired Front End Loader, 1 yard and under	10.47	.55	.55	.45	.07
Rubber-tired Front End Loader, 1 yard to and including 3 yards	10.76	.55	.55	.45	.07
Rubber-tired Front End Loader, over 3 yards to and including 5 yards	10.88	.55	.55	.45	.07
Rubber-tired Front End Loader, over 5 yards to and including 10 yards	10.98	.55	.55	.45	.07
Rubber-tired Front End Loader, over 10 yards to and including 15 yards	11.08	.55	.55	.45	.07
Rubber-tired Front End Loader, over 15 yards	11.18	.55	.55	.45	.07
Scraper, DW 15, 20, 21 and similar type if power unit is not used	10.76	.55	.55	.45	.07
Scraper, single or twin engine pulling belly dump trailer	11.14	.55	.55	.45	.07
Scraper, single engine	10.89	.55	.55	.45	.07
Scraper, twin engine	10.99	.55	.55	.45	.07
Scraper, tandem engine or 3 engine	11.25	.55	.55	.45	.07
Self-propelled Sheepfoot and similar type	10.76	.55	.55	.45	.07

POWER EQUIPMENT OPERATORS (Cont'd)	Basic Hourly Rates	Fringe Benefits Payments			
		H & W	Pensions	Vacation	Education and/or Appr. Tr.
Shovels, including all attachments, under 1 cu. yd.	$ 10.76	.55	.55	.45	.07
Shovels, including all attachments, 1 cu. yd. to and including 3 cu. yds.	10.94	.55	.55	.45	.07
Shovels, including all attachments over 3 cu. yds. to and including 5 cu. yds.	11.21	.55	.55	.45	.07
Shovels, including all attachments over 5 cu. yds.	11.34	.55	.55	.45	.07
Shovel Oiler, 3 yards and under	10.25	.55	.55	.45	.07
Shovel Oiler, over 3 cu. yds.	10.66	.55	.55	.45	.07
Slip Form Paver	10.89	.55	.55	.45	.07
Stiff Leg Derrick and Guy Derrick	11.21	.55	.55	.45	.07
Track-type Front End Loaders, up to and including 5 cu. yds.	10.76	.55	.55	.45	.07
Track-type Front End Loaders, over 5 cu. yds. to and including 10 cu. yds.	10.99	.55	.55	.45	.07
Track-type Front End Loaders, over 10 cu. yds. to and including 15 cu. yds.	11.09	.55	.55	.45	.07
Track-type Front End Loaders, over 15 cu. yds.	11.19	.55	.55	.45	.07
Track-type Tractor w/wo attachments	10.76	.55	.55	.45	.07
Track-type Tractor, on Euclid Loader	10.94	.55	.55	.45	.07
Trenching Machine	10.76	.55	.55	.45	.07
Turnhead Conveyor, or Head Tower on Batch Plant	10.76	.55	.55	.45	.07
Wagner Roller and similar type	10.76	.55	.55	.45	.07
Whirley Crane	11.29	.55	.55	.45	.07
Whirley Crane Oiler	10.66	.55	.55	.45	.07
Water Pull when used for compaction	10.76	.55	.55	.45	.07
Washing and Screening Plant	10.76	.55	.55	.45	.07
Washing and Screening Plant Oiler	10.25	.55	.55	.45	.07
Yo-Yo Cat, both ends	10.96	.55	.55	.45	.07

TRUCK DRIVERS	Basic Hourly Rates	Fringe Benefits Payments			
		H & W	Pensions	Vacation	Education and/or Appr. Tr.
COMBINATION TRUCK; Concrete Mixer and Transit Mixer:					
To and including 4 cu. yds.	$ 9.61	.65	.50		
Over 4 cu. yds. to and including 6 cu. yds.	9.69	.65	.50		
Over 6 cu. yds. to and including 8 cu. yds.	9.77	.65	.50		
Over 8 cu. yds. to and including 10 cu. yds.	9.85	.65	.50		
Over 10 cu. yds. - additional $.08 per hour each additional 2 cu. yds. increment					
DISTRIBUTOR DRIVER and HELPER	9.59	.65	.50		
DRY BATCH TURCKS:					
3 Batch or under	9.36	.65	.50		
Over 3 Batch to and including 5 Batch	9.49	.65	.50		
Over 5 Batch to and including 10 Batch	9.65	.65	.50		
Over 10 Batch to and including 15 Batch	9.81	.65	.50		
Over 15 Batch - additional $.15 per hour each additional 5 Batch increment					
PICKUP DRIVER, HAULING MATERIALS	9.46	.65	.50		
DUMPMAN, GRAVEL SPREADER BOX OPERATOR; Pilot Car Driver, Teamsters and Helpers	9.36	.65	.50		
WAREHOUSEMEN, Partsmen, Cardex Men, Warehouse Expediter	9.56	.65	.50		

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TRUCK DRIVERS (Cont'd)	Basic Hourly Rates	Fringe Benefits Payments H & W	Pensions	Vacation	Education and/or Appr. Tr.
DUMP TRUCKS AND SIMILAR EQUIPMENT, DW 20, DW 21, or EUCLID TRACTORS, Pulling P.R. 21 or similar Dump Wagons:					
Water Level Capacity, including Sideboards:					
7 cu. yds. or less	$ 9.36	.65	.55		
Over 7 cu. yds. to and including 10 cu. yds.	9.49	.65	.55		
Over 10 cu. yds. to and including 15 cu. yds.	9.65	.65	.55		
Over 15 cu. yds. to and including 20 cu. yds.	9.79	.65	.50		
Over 20 cu. yds. to and including 25 cu. yds.	9.85	.65	.50		
Over 25 cu. yds. to and including 30 cu. yds.	9.91	.65	.50		
Over 30 cu. yds. to and including 35 cu. yds.	9.97	.65	.50		
Over 35 cu. yds. to and including 40 cu. yds.	10.03	.65	.50		
Over 40 cu. yds. to and including 45 cu. yds.	10.09	.65	.50		
Over 45 cu. yds. - additional $.10 per hour each additonal 5 cu. yds. increment					
DUMPSTERS	9.49	.65	.50		
SERVICEMEN	10.20	.65	.50		
POWER TRUCK DRIVER (bulk unloader type)	9.54	.65	.50		
FLAT TRUCKS:					
To and including 3 tons	9.51	.65	.50		
Over 3 tons Factory rating	9.71	.65	.50		
SERVICE TRUCK DRIVERS; FUEL TRUCK DRIVERS; TIREMEN	9.95	.65	.50		
LOWBOYS, FOUR-WHEEL TRAILER, FLOAT SEMI-TRAILER	9.61	.65	.50		

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TRUCK DRIVERS (Cont'd)	Basic Hourly Rates	Fringe Benefits Payments H & W	Pensions	Vacation	Education and/or Appr. Tr.
LUMBER CARRIERS, LIFT TRUCKS and FORK LIFTS	$ 9.61	.65	.50		
POWER BROOM	9.45	.65	.50		
WATER TANK DRIVERS, PETROLEUM PRODUCTS DRIVERS:					
2,500 gallons and under	9.36	.65	.50		
Over 2,500 gallons to and including 4,500 gallons	9.65	.65	.50		
Over 4,500 gallons to and including 6,000 gallons	9.85	.65	.50		
Over 6,000 gallons to and including 8,000 gallons	9.91	.65	.50		
Over 8,000 gallons to and including 10,000 gallons	9.99	.65	.50		
Over 10,000 gallons - additional $.10 per hour each additional 2,000 gallons increment					
TRUCK WITH POWER EQUIPMENT IF UNDER TEAMSTERS JURISDICTION, SUCH AS:					
Winch, A-frame, Swedish Crane, Bydra-lift, Groutcrete and combination mulching, seeding and fertilizing	9.61	.65	.50		
TRUCK MECHANIC	10,35	.65	.50		

	Basic Hourly Rates	Fringe Benefits Payments			
		H & W	Pensions	Vacation	Education and/or Appr. Tr.
LINE CONSTRUCTION					
Flathead, Lake and Lincoln Counties					
All construction of "H" fixtures and steel tower transmission lines with capacity of 69 K.V. voltages and over, Switch yard and substation rated at 5000 K.V.A. and all work not covered by schedule "B".					
SCHEDULE "A"					
Lineman	$ 11.73	.45	3%+.25		1/2%
Cable Splicer	13.05	.45	3%+.25		1/2%
Powderman, Jackhammer, Compressorman	8.67	.45	3%+.25		1/2%
Line Equipment Operators	9.99	.45	3%+.25		1/2%
Groundman	7.01	.45	3%+.25		1/2%
Groundman (Experienced)	8.13	.45	3%+.25		1/2%
All work for power utilities except work covered under Schedule "A", all highway lighting, street lighting and motor traffic controlling.					
SCHEDULE "B"					
Lineman	10.55	.45	3%+.25		1/2%
Cable Splicers	11.73	.45	3%+.25		1/2%
Pole Sprayer	10.42	.45	3%+.25		1/2%
Line Equipment Operators	9.15	.45	3%+.25		1/2%
Powderman, Jackhammer, Compressorman	7.97	.45	3%+.25		1/2%
Groundman	7.48	.45	3%+.25		1/2%
Tree Trimmer	10.84	.45	3%+.25		1/2%

	Basic Hourly Rates	Fringe Benefits Payments			
		H & W	Pensions	Vacation	Education and/or Appr. Tr.
LINE CONSTRUCTION (Cont'd)					
Remaining Counties					
Lineman, Pole Sprayer	$ 10.10	.45	3%+.25		1/2%
Cable Splicer	10.60	.45	3%+.25		1/2%
Line Equipment Operators; Powderman	9.05	.45	3%+.25		1/2%
Groundman, Experienced	7.35	.45	3%+.25		1/2%
DREDGING					
Assistant Mate (Deckhand)	12.02	.85	1.00		.11
Fireman	12.12	.85	1.00		.11
Oiler	12.12	.85	1.00		.11
Assistant Engineer (Electric, Diesel, Steam or Booster Pump)	12.46	.85	1.00		.11
Mates and Boatman	12.46	.85	1.00		.11
Engineer Welder	12.51	.85	1.00		.11
Craneman	12.51	.85	1.00		.11
Assistant Engineer (Electric, Generator Operator for Primary Pump, Power Barge or Dredge)	12.56	.85	1.00		.11
Leverman, Dipper:					
(a) 5 yards and under	13.27	.85	1.00		.11
(b) Over 5 yards	13.82	.85	1.00		.11
Leverman, Hydraulic	12.88	.85	1.00		.11

SUPERSEDEAS DECISION

STATE: Nebraska

COUNTIES: Statewide (except Douglas, Cass, Sarpy, Washington and that portion of Saunders County East of Highway #109

DECISION NO.: NE79-4026

DATE: Date of Publication

Supersedes Decision No. NE78-4006 dates February 3, 1978 in 43 FR 4819

DESCRIPTION OF WORK: Heavy and Highway Construction (excluding bridges across navigable waterways).

	Basic Hourly Rates	Fringe Benefits Payments			
		H & W	Pensions	Vacation	Education and/or Appr. Tr.
Carpenter	$6.90				
Carpenter Helper	4.90				
Cement Finisher	6.60				
Concrete Saw Operator	6.05				
Form Setter (road)	6.05				
Form Setter (structures)	5.40				
Laborer	4.40				
Manhole Builder	5.40				
Painter	4.40				
Pile Driver Leadsman	4.40				
Power Equipment Operators:					
All Purpose Spreader	5.15				
Asphalt Distributor	4.90				
Asphalt Distributor Helper	4.60				
Asphalt Heaterman	4.60				
Asphalt Paving Machine	6.60				
Asphalt Paving Machine Screedman	5.40				
Stationary Pl. (base or stabilization)	6.05				
Stationary Pl. (asphalt or concrete)	6.90				
Beginner Operator	5.40				
Bulldozer:					
Less than 115 Drawbar H.P.	6.15				
115 Drawbar H.P. and over	6.90				
Cement Handler	4.40				
Clamshell, Dragline, Backhoe, Crane, Pile Driver or Shovel	7.00				
Concrete Mixer	4.40				
Concrete Paver	6.05				
Slip Form Paver	6.90				
Concrete Finishing Machine and Spreader	6.90				
Conveyor	4.40				
Crusher (incl. those with integral screening plant)	6.15				
Dredge Pump Under 10"	5.15				
Dredge Pump 10" and Over	6.05				
Fireman (boiler)	4.60				

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	Basic Hourly Rates	Fringe Benefits Payments			
		H & W	Pensions	Vacation	Education and/or Appr. Tr.
Front End Loader:					
3½ Cu. Yds. or less	$6.05				
Over 3½ Cu. Yds.	6.60				
Mechanic	7.00				
Mechanic Helper	6.05				
Motor Grader	7.00				
Oiler or Greaser	6.05				
Roller or Compactor, Self-Propelled	6.15				
Scraper, Under 16 Cu. Yds	6.15				
Scraper 16 Cu. Yds. and Over	6.90				
Power Grade Machine (trimmer & profiler	6.90				
Tractor:					
Farm Type	5.15				
Less than 115 Drawbar H.P.	6.15				
115 Drawbar H.P. and Over	6.60				
Traveling Plant (stabilization)	6.15				
Traveling Plant Helper (stabilization)	5.15				
Trenching Machine	5.40				
Truck Driver:					
Single Axle	4.40				
Tandem Axle	5.15				
Semi-Trailer	5.15				
Transit Mix	5.15				
Lowboy	6.05				
Water Tanker, 6,000 Gal. & over	6.15				
Welder	6.60				
Hydrohammer	5.10				

[FR Doc. 79-4173 Filed 2-8-79; 8:45 am]

federal register

FRIDAY, FEBRUARY 9, 1979

PART III

THE NATIONAL ARCHIVES OF THE UNITED STATES
1934

OFFICE OF PERSONNEL MANAGEMENT

■

STANDARDS FOR A MERIT SYSTEM OF PERSONNEL ADMINISTRATION

Final Rule; Revision

[6325-01-M]

Title 5—Administrative Personnel

CHAPTER I—OFFICE OF PERSONNEL MANAGEMENT

PART 900—INTERGOVERNMENTAL PERSONNEL ACT PROGRAMS

Standards for a Merit System of Personnel Administration

AGENCY: Office of Personnel Management.

ACTION: Final rule.

SUMMARY: The Office of Personnel Management is issuing revised Standards for a Merit System of Personnel Administration. These revised Standards incorporate in revised form regulations which have been transferred from 45 CFR Part 70 and material presently in 5 CFR Part 900, Subpart F. By this action and action taken elsewhere in this FEDERAL REGISTER, the Standards are removed from 45 CFR Part 70. Authority to prescribe the Standards was transferred to the United States Civil Service Commission from the Departments of Health, Education, and Welfare, Labor, and Agriculture by the Intergovernmental Personnel Act (IPA) of 1970, and under Reorganization Plan Number Two of 1978, was transferred to the Office of Personnel Management on January 1, 1979.

These revised regulations appeared in proposed form in the FEDERAL REGISTER on May 16, 1978, 43 FR 20996.

The Standards contain requirements and guides for establishing and maintaining a system of personnel administration on a merit basis in the grant-in-aid programs listed in Appendix A to this issuance. Their primary purpose is to help strengthen State and local personnel administration for those grant programs to assure their proper and efficient administration. They include criteria for establishing and maintaining a systematic approach to employing, advancing and retaining employees; for providing proper safeguards for fair treatment of employees; for assuring compliance with Federal equal employment requirements; for assuring effective employee management relations; and for sustaining proper administration of the Standards through evaluation, technical assistance, and where necessary, enforcement action.

EFFECTIVE DATE: February 9, 1979.

FOR FURTHER INFORMATION CONTACT:

Lawrence D. Greene, Intergovernmental Personnel Programs, Office of Personnel Management, 1900 E Street, NW., Room 2510, Washington, D.C. 20415—(202) 632-6044.

SUPPLEMENTARY INFORMATION:

BACKGROUND

A purpose of the IPA as expressed in Title II is "to assist State and local governments to strengthen their staffs by improving their personnel administration." In Title II, Section 208(a), the Congress provides one means of accomplishing this purpose—by the Office of Personnel Management prescribing, and in cooperation with Federal grantor agencies, administering personnel standards on a merit basis for State and local government personnel systems serving grant-aided programs. The IPA further provides in Section 208 that the personnel standards "shall be such as to encourage innovation and allow for diversity on the part of State and local governments in the design, execution, and management of their own individual systems of personnel administration." Just before the IPA became effective in 1971, the Standards, which were administered at that time by the Department of Health, Education, and Welfare, were revised. They have continued to be in effect in that form until now.

In addition to the fact that the previous Standards were promulgated by Federal agencies not now having responsibility for their administration, a number of other changes since 1971 led to the decision to revise them. There have been, for example, major court decisions and legislative changes in the area of civil rights, the most important being the extension of the Civil Rights Act of 1964 to State and local governments by amendment in 1972, and several Supreme Court decisions. Employee-management relations, including collective negotiations programs, have undergone considerable growth in the public sector. Section 208(b) of the IPA was amended in 1978 to provide that the Standards "shall be prescribed in such a manner as to minimize Federal intervention in State and local personnel administration." It also provides that the Standards shall include the merit principles in section 2 of the IPA. The Standards have been revised to take account of these developments. The U.S. Civil Service Commission and the Office of Personnel Management have been particularly interested in improving the relationships between the Federal Government and State and local governments in applying the Standards to federally assisted programs. It is the intent of the Office of Personnel Management in prescribing these Standards to minimize Federal intervention in State and local personnel administration.

The revised Standards are intended to be consistent with the Civil Service Reform Act and therefore to enable State and local governments to reform or modernize their personnel systems along similar lines consistent with the Standards provisions. An extensive review process has given to every interested party assurance of opportunity to provide comments and recommendations on the revisions in the Standards.

By merging the Principles of the IPA and the Standards, the Federal regulatory experience in administering the Standards over the past 38 years has been combined with the congressionally adopted principles of personnel management on a merit basis.

RULEMAKING HISTORY

On November 30, 1976, the United States Civil Service Commission published an "Advance Notice of Proposed Rulemaking" which announced its intent to review the Standards and invite participation by interested parties. From the time of that announcement until a proposed set of revised Standards was published on May 16, 1978, the the United States Civil Service Commission undertook an extensive consultation process with State and local governments, public interest groups, other Federal agencies, employee organizations, professional membership organizations, civil rights organizations, and citizen interest groups. Additional written comments on the May 16 version of the proposed Standards have now been received and analyzed. At this time, a total of more than 400 letters of comment have been received. In addition, State and local government officials, representatives of public interest and other groups, and Federal officials throughout the country were invited to meet and discuss issues involved in revising the Standards. A public meeting was held by the United States Civil Service Commission in which the Commissioners personally heard testimony from a variety of individuals representing groups affected by the Standards. Also, the Equal Employment Opportunity Commission (EEOC) approved the Standards as provided under Executive Order 12067.

At the outset, the Commission aimed to involve as many interested parties as possible in the review process. This objective has been met. The revision that follows results from a major effort to be responsive to the comments and ideas contributed. In this instance, the policy formulation process required careful listening to opinions and recommendations from various points of view which were often widely divergent. The Office of Personnel Management believes this version of the Standards is now the best possible reconciliation of the various views put forward.

ANALYSIS OF FINAL REGULATIONS

This section gives an overview of the regulations, describes each section, discusses the comments, and explains the basis for changes from the proposed regulations issued in May 1978.

As stated above, the Standards have been incorporated into 5 CFR Part 900. They now comprise Subpart F. Separate regulations on administration of the Standards which formerly were in 5 CFR Part 900, Subpart F, have also been revised and are now incorporated in the Standards.

The Standards contain one section, § 900.601, which explains their purpose and applicability to covered grant programs and nine sections, § 900.602 through § 900.611 which contain regulations and guides. Explanation of the differences between regulations and guides can be found in § 900.601 (l), (m), and (n).

SECTION BY SECTION ANALYSIS

STATEMENT OF PURPOSE AND APPLICABILITY

Significant changes in the format of the Merit System Standards are outlined in the introduction. The Standards now have been merged with the six principles contained in section two of the Intergovernmental Personnel Act of 1970 (Pub. L. 91-648). Administrative provisions of the Standards are grouped under three sections entitled "Administration of State and local personnel systems," "Assuring conformity with the Standards," and "Establishing a merit requirement or policy."

Another significant change in format is the clear identification of those portions of the Standards which are considered enforceable, regulatory requirements. Guide material is clearly identified. it interprets the intent of the requirements and sets forth desirable methods for their implementation.

The introduction makes clear that the revised Standards provide State and local governments with greater flexibility, are performance oriented to the maximum extent possible, and avoid detailed procedural or technical requirements. It highlights new features in administration, including the involvement of chief executives, simplified approaches to the maintenance of State plans and new, simpler approaches for small local governments. The introduction outlines the role of the Office of Personnel Management and Federal grantor agencies in providing constructive technical advice and assistance and, as a last resort, taking enforcement actions in accordance with the regulations of the specific grant programs.

UNIFORM GUIDELINES ON EMPLOYEE SELECTION PROCEDURES (1978)

In order to assure a coordinated approach to Federal requirements regarding employee selection, the Uniform Selection Guidelines are incorporated as a requirement in the Standards.

MERIT PRINCIPLE I

Under the first merit principle there are sections on Recruitment, Selection and Appointment, and Career Advancement. Under Recruitment, efforts are required to assure open competition and to place special emphasis on attracting minorities, women, or other groups that are substantially underrepresented, in line with the provisions of the Equal Employment Opportunity Coordinating Council's Policy Statement on Affirmative Action for State and Local Governments. This section recommends the use of recruiting plans based on projected work force needs. It indicates recruitment should be tailored to labor market conditions. The requirement in the 1971 Standards for publicity in all appropriate media is eliminated.

The Selection and Appointment section requires selection procedures to be job related and to maximize validity, reliability, and objectivity. Selection normally will be through open competition but competition can be limited to facilitate the employment of handicapped and economically disadvantaged persons and participants in congressionally and related State authorized employment or rehabilitation programs.

Appointments will be made from among the most qualified persons on eligibility lists. In those occassional instances where there is evidence that this is not practical, noncompetitive appointments may be made. State and local governments are given wider latitude with regard to certification practices used, including broad-band certification, to provide appointing officials an appropriate number of eligible candidates.

State and local governments are encouraged to provide for entry through cooperative education, work study, internships and similar programs.

The Career Advancement requirement clearly indicates that State and local governments can use a wide variety of approaches in promoting employees as long as they are appropriately qualified. The interpretive guidance makes it clear that the determination of this eligibility can be delegated to operating agencies. It encourages systematic promotion systems and the bringing in of persons from outside the career service where this is in the best interest of the service or will contribute to improved employment opportunties for underrepresented groups.

MERIT PRINCIPLE II

A much simplified requirement on compensation and classification plans is provided. It calls simply for maintaining them on a current basis, assuring equal compensation for equal work, and taking into account the responsibility and difficulty of the work, the compensation needed to compete in the labor market and with other agencies of government, and other pertinent factors. The guidance suggests that classification plans based on job analysis should be used for a wide variety of personnel program activities. It also points out the authority of States with regard to local agency compensation.

MERIT PRINCIPLE III

A new requirement is established for training. A guide is provided recommending that State and local governnments train as needed to prepare employees for career advancement and to implement equal employment opportunity. Systematic methods are encouraged.

MERIT PRINCIPLE IV

Layoffs, separations, and employee evaluations are grouped under this principle. The requirements provide that permanent employees will not be subject to separation except for cause or such reasons as curtailment of work or lack of funds. A new requirement is added for procedures for the separation of employees whose performance is still inadequate after corrective efforts have been made. The requirement on reduction in force is simplified to call for systematic consideration of types of appointments and other relevant factors.

The guide recommends that employees be evaluated on a systematic, job related basis so that the evaluations can be used for a variety of personnel actions.

MERIT PRINCIPLE V

To provide a better basis for further effective progress in equal employment opportunity in State and local agencies, the Standards include more specific requirements for affirmative action programs. The importance of affirmative measures to assure equal employment opportunity is further emphasized by a positive statement calling for measures to attract qualified minorities, women, and other appropriate groups to apply, especially when they are significantly underrepresented.

The approach to prohibition against discrimination in the present Standards is continued but the language is brought into line with the Civil Rights Act of 1964 and other major national legislation on discrimination. Guidance is provided on that language, on exceptions based on bona fide occupational qualifications, and on use of work force data for problem identification. Where information on qualified candidates is not available, total labor force may be used for this purpose.

The Employee Management Relations section is more explicitly presented as a guide to desirable approaches. It has been recast to include a positive statement of the importance of effective communications with employees through giving them an opportunity to participate in the formulation of policies and priorities affecting the conditions of their employment. The requirement for maintenance of merit principles which is contained in the present Standards in the employee relations section remains there and is repeated in the subsection on the Policy Basis for Merit Systems in order to make clear that the maintenance of a system of personnel administration based on merit principles must be assured in all aspects of personnel administration, not just in the area of employee management relations. The guide will cover Federal, State, and local procedures to inform employee organizations on administration of the Standards.

The provisions on general and discrimination appeals have been grouped together and the language is clarified. A provision for appeal rights in case of demotion has been added. The concept of an "impartial process" is substituted for the more restrictive "impartial body" and the requirement that appeals from discrimination be resolved in a timely fashion is added. Guidance is provided on the acceptability of grievance procedures under this requirement.

MERIT PRINCIPLE VI

Recognizing that the Hatch Act is the major expression of national policy on the political activities of public employees, this section of the Standards is now primarily a guide containing information and recommendations. This is an important change because it means that while we continue to recommend that State and local governments adopt and enforce their own provisions on political activity consistent with the Federal Hatch Act, this is not a matter which the Federal Government would make a compliance issue under the Standards. This simplifies for State and local officials the Federal policy in this area. The section requires only that State and local governments inform their employees of their responsibilities under the Hatch Act.

ADMINISTRATION OF STATE AND LOCAL MERIT SYSTEMS

COVERAGE OF STANDARDS

Exemptions have been one of the most controversial aspects of the Merit System Standards Program. Some chief executives have felt that limitation of the top level political appointees to specifically designated types of jobs has hindered them in assuring responsiveness of the government to their overall policy direction. These Standards are more flexible. The list of specific types of top level positions which may be exempted has been recast as interpretive guidance. In its place is a broader requirement that recognizes the need to assure proper organizational responsiveness. In large multi-program agencies, officials who report directly to the head of a primary program component also may be exempted.

Finally, provision is made for the exemption of handicapped persons as defined in the Rehabilitation Act of 1973, as amended, from the merit system in order to facilitate their employment.

A new authority allowing for temporary waivers of one or more provisions of the Standards in order to carry out experimental or research projects has been added. This feature is consistent with the policy in the Intergovernmental Personnel Act of encouraging innovation and allowing for diversity in the management of State and local personnel systems.

ORGANIZATION

Wide latitude has always been permitted in the organization and management of merit systems where substantially all employees in the State and local government are covered by that system, but fairly detailed requirements were prescribed for approximately one-third of the States which establish cooperative interagency merit systems to meet the Federal requirement. This distinction is removed in these Standards and various types of personnel organizations are accepted as long as they provide for impartial administration of the personnel system.

Another significant change is a waiver of the Standards for small local governments not now covered by a State or local merit system, if the chief executive agrees to administer grant-aided programs consistent with the six merit principles in the Intergovernmental Personnel Act. This recognizes that in many small local governments it may not be cost effective to establish a merit personnel system solely in order to be eligible for Federal grants.

INTERGOVERNMENTAL COOPERATION

It is made clear that this section is a guide, not a requirement.

EXTENSION OF PERSONNEL SYSTEM

Guidance is provided showing that States have the additional option of blanketing in incumbents when the merit system is extended to a new program if they have a specified period of satisfactory service in the agency.

PERSONNEL RECORDS AND REPORTS

New guidance is provided indicating employees should have the right to review their personnel files, and access to such files should be limited to persons with a need to see them.

ASSURING CONFORMITY WITH THE STANDARDS

New sections on establishing merit requirements by Federal agencies, compliance and assistance, and roles of the chief executive have been added. The first two matters were the subjects of other regulations. For the first time all such Standards related regulations are now consolidated in one document.

SUMMARY OF COMMENTS

The most significant comment received as a result of publication of the proposed Standards centered around the following issues: selection and appointment, minimum qualifications, employee management relations, affirmative action and equal employment opportunity, equal employment opportunity data, work force analysis, layoffs, flexibility, exemption of top level jobs from merit coverage, supervision of local compliance. Following are summaries of the comments received in these areas and a discussion of changes based on these comments which were made in the final Standards.

Selection and Appointment. The main issues raised with regard to test validation and job-relatedness were whether the proposed language represented a diminishing concern on the part of the Federal Government regarding improvement in selection programs and whether the Uniform Guidelines on Employee Selection Procedures (1978) should be incorporated. The language was changed to assure that it is clear that the Office of Personnel Management's commitment to improving selection programs remains high. The Standards will call for "maximizing validity, reliability, and objectivity" and now incorporate the selection guidelines.

Those who commented on the revised provision on certification questioned whether it might be interpreted to mean that "broad band" certification was the preferred approach. The provision has been revised to include another example and to clarify the meaning of "broad band" certification and how it is used. Now the Standards make it clear; State and local governments may elect a wide variety of approaches to certification.

A number of comments were received that the provision permitting certain kinds of noncompetitive appointments was too liberal. The intent of this provision is to allow for such appointments only in unusual circumstances.

Many comments were addressed to the need to clarify the circumstances under which limited competition would be permitted. The language was revised to clarify that use of limited competition is limited to positions appropriate for improving employment opportunities for economically disadvantaged or handicapped persons.

In a related issue, some commenters raised the issue of how "handicapped" would be defined under the Standards and raised objections to the delineation of types of handicap in the proposed rules. The Office of Personnel Management acknowledges that the Standards should be consistent with the Rehabilitation Act of 1973 and has revised this section on both counts. The phrase "substantial physical or mental impairment" now replaces "severely handicapped" and all references to specific handicaps as examples have been deleted.

Minimum Qualifications. The phrase "wherever they are needed" referring to the requiring of minimum qualifications, resulted in a number of diverse interpretations or complaints of lack of clarity. Some recommended that the phrase be struck from the Standards. We feel that by substituting the term "practical" for "needed," most of the problems will be resolved.

Employee Management Relations. There were a number of expressions of concern over the relationship between collective negotiation and the merit principles. Aside from some minor changes in language for clarification purposes, no revisions were made in the section on employee management relations. The Office of Personnel Management believes that wide latitude must be afforded State and local governments regarding the development of their systems of employee management relations until such time as Congress may determine that it is appropriate to adopt a national policy with regard to employee management relations in the public sector. The Standards make it clear that negotiated agreements are to be treated just as State laws and regulations are in determining compliance with merit principles.

Affirmative Action and EEO. Many comments were received regarding affirmative action for EEO. A variety of questions were raised about such matters as terminology and methods of analysis but the main thrust of the revisions was not questioned. A number of clarifications have been made in the language without any changes in the substantive provisions.

EEO Data. The section on collection of EEO data received a number of comments. There were strong feelings that the provisions to grant waivers of the collection of EEO data on applicants should be deleted. This entire provision has been deleted. The Standards now incorporate the information provisions of the Uniform Guidelines on Employee Selection Procedures. EEO data must be collected in accordance with the terms of these Uniform Selection Guidelines. The Office of Personnel Management will continue to review EEO data as part of its evaluations and will focus on applicant data in those situations where underrepresentation appears to exist in employment.

Work Force Analysis. There were a number of comments on the need for more clarity in the language to eliminate multiple interpretations of certain words. A number of changes have been made to achieve clarity and uniformity of expression in the use of concepts such as agency work force and labor force.

Layoffs. A frequent comment on layoffs was that seniority should be restored as a relevant factor to be considered. The guide material has been modified to include a recommendation that both quality and length of service be taken into account in layoffs.

Flexibility. A large number of comments supporting the flexibility of the new Standards were received. The emphasis on executive responsibility and the opportunity for State and local governments to experiment with innovative systems were among the progressive changes that elicited enthusiastic comments. On the other hand, a few objected to the more permissive language, pointing to the potential for abuse and perhaps in the long run a return to the patronage system. The Office of Personnel Management has retained the liberalized features because of its conviction of the overriding need in the country for improvement and reform of civil service systems without endangering basic merit principles.

Exemption of Top Level Jobs from Merit Coverage. Several of those who commented favorably on flexibility in the proposed Standards were pleased with the proposed provisions on exemptions. A number of letters expressing concerns focused on what some believe to be the resulting tendency for exemptions to increase. These comments proposed more stringent requirements on exemptions. Some comments expressed problems with definitions.

In light of some serious concerns on the subject of exemptions, the views of one commenter seem to provide a better understanding of the intent of the provisions. According to this writer, many who are concerned about exemptions do not realize that these flexible provisions simply provide options for State and local governments. The Standards do not require top level positions to be exempt, but rather permit this.

Supervision of Local Compliance. A few States raised objections to the Standards provision on State supervision of local merit system agencies. Some reasons given centered on the imposition of additional burdens on the States, unwarranted intrusion into local affairs, and the possibility of inconsistent policy interpretations by the fifty States. These commenters believe that the Federal Government should have primary responsibility for local compliance with the Standards. Under grant statutes this responsibility has belonged to the States for many years, although it has not always been effectively implemented. The new Standards simply clarify the State's responsibility for local compliance, which has been theirs all along.

Accordingly, the regulation on Administration of the Standards for a Merit System of Personnel Administration in the present Subpart F of 5 CFR Part 900 is revoked and the following Subpart F will replace it.

Office of Personnel Management,
James C. Spry,
Special Assistant to the Director.

PART 900—INTERGOVERNMENTAL PERSONNEL ACT PROGRAMS

Subpart F—Standards for a Merit System of Personnel Administration

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900.612-620 [Reserved]

AUTHORITY: 42 U.S.C. 4728, 4763: E.O. 11589, 3 CFR 557 (1971-1975 Compilation).

§ 900.601 Statement of purpose and applicability.

(a) The regulations and guides in §§ 900.602 through 900.620 incorporating the merit principles in section 2 of the Intergovernmental Personnel Act of 1970 (Pub. L. 91-648), are promulgated by the Office of Personnel Management (of the United States Government, hereinafter the "Office of Personnel Management") to prescribe intergovernmental personnel standards on a merit basis as a condition of eligibility in the administration of various grant-in-aid and other intergovernmental programs as provided in section 208(a) of the Intergovernmental Personnel Act.

(b) Proper and efficient administration of grant-in-aid and other intergovernmental programs is a mutual concern of the Federal, State and local agencies cooperating in the implementation of these programs. Proper and efficient administration requires clear definition of functions, employment of highly qualified personnel, and development of staff morale and individual efficiency. Adequate resources are needed to staff, develop, and implement effective personnel programs. Cooperative efforts by the central personnel organization and program agencies and their personnel offices are essential in providing comprehensive personnel services. Personnel programs which are planned and administered in a timely, expeditious manner will contribute to the effective accomplishment of program objectives and maintenance of merit principles.

(c) An integral part of the intergovernmental programs is the maintenance by the State and local governments of their own merit-based systems of personnel administration for their grant-aided agencies. Federal agencies are interested in the development and continued improvement of State and local personnel systems, but under the Intergovernmental Personnel Act, Social Security Act, and other grant statutes they may not exercise authority, direction, or control over selection, assignment, advancement, retention, compensation, or other personnel actions with respect to any individual State or local employee.

(d) There is a wide range of legal, administrative, and technical approaches available to State and local governments to implement these Standards. The choice among techniques or approaches which will accomplish the results called for in these Standards is a matter for State or local government determination.

(e) These Standards provide State and local governments the flexibility to pursue innovative and diverse approaches to strengthening personnel management. They are intended to be performance oriented to the maximum extent consistent with effective administration and to limit mandatory provisions to key areas.

(f) A key feature in the administration of these Standards is the cooperative involvement of chief executives in the maintenance of merit approaches to personnel administration and the improvement of their personnel management. This enables the Office of Personnel Management to use simplified approaches to assure merit-based personnel administration in the programs covered by the Standards.

(g) Continuing application of these Standards will give reasonable assurance of a proper basis for personnel administration, promote a career service, and result in increased operating efficiency and program effectiveness. Personnel systems based on these Standards will promote equal employment opportunity, assure the fair treatment of applicants and employees in all aspects of personnel administration, and contribute to the achievement of a representative agency work force.

(h) These Standards emphasize the need for inclusion of all groups in our society in State and local government employment. This emphasis is based upon a general government policy of initiatives to overcome any serious underrepresentation of minorities and women in employment under the grant programs and the specific obligation to take appropriate remedial action where there has been illegal discrimination. The Standards provide a basis for firm compliance action when discrimination is not eliminated voluntarily. State and local governments are subject to Title VII of the Civil Rights Act of 1964; the Intergovernmental Personnel Act of 1970; the State and local Fiscal Assistance Act of 1972, as amended and (in many cases) Executive Order 11246, as amended. Under all of those authorities, such governments are obliged to conduct their activities without discrimination and specifically are obligated to comply with the *Uniform Guidelines on Employee Selection Procedures* (1978), (43 FR 38290) (Friday, August 25, 1978). The *Uniform Guidelines* and therefore these Standards require that all selection procedures which have an adverse impact on any racial, sex or ethnic group must be validated, modified or changed in accordance with the *Guidelines* or otherwise be demonstrated to be in accord with Federal law. These Standards are consistent with the *Guidelines*, and with the *Policy Statement on Affirmative Action for State and Local Government Agencies*, adopted by the Equal Employment Opportunity Coordinating Council (41 FR 38814 September 13, 1976). The *Uniform Guidelines* are included in these regulations as Appendix B. State and local governments undertaking voluntary affirmative action are referred to the Equal Employment Opportunity Commission's (EEOC) *Affirmative Action Guidelines* (44 FR 4422 January 19, 1979).

(i) Within these Standards, means are provided for the implementation of national policies for structuring jobs, training and employing the handicapped and disadvantaged, and implementing Congressional and related State employment and rehabilitation programs.

(j) In conjunction with the Office of Personnel Management, the Federal grantor and other agencies are involved to the maximum extent feasible in the evaluation and maintenance of merit based personnel administration. In cases where elements of the personnel system or the administration of the system contain deviations from the Standards, the Office of Personnel Management provides consultation and technical assistance to State and local governments to obtain appropriate revisions. In matters involving serious deviations from the provisions of the Standards, the Office of Personnel Management submits recommendations to and coordinates necessary action by the Federal agencies. The Federal agencies attempt to avoid using the sanction of withdrawing Federal grant funds and place their emphasis on negotiation and technical assistance to achieve the required substantial conformity with these Standards. Where necessary, however, enforcement actions are taken in accordance with the regulations of the specific grant or other programs. (See § 900.610.)

(k) In order to assist State and local governments in maintaining their personnel systems under these Standards, technical consultation services will be provided to the extent resources are available.

(l) The provisions under §§ 900.602 through 900.620 identified as requirements are the regulatory provisions of these Standards.

(m) The general requirements are based on the six merit principles contained in section 2 of the Intergovernmental Personnel Act of 1970. They are followed by more explicit requirements which relate to individual provisions of the merit principles.

(n) There are two types of provisions in the "Guide" sections:

(1) Interpretations of the intent of the requirements. While these are not regulations, they explain policies, practices, or other actions needed to comply with the regulations.

(2) Recommendations for desirable methods of personnel administration and informational materials. These are printed in italics. State and local governments are encouraged to use these methods but they are not requirements of the Standards.

(o) The six merit principles enunciated by Congress in 1971 as the basic policy and objectives of Intergovernmental personnel programs are as follows:

(1) Recruiting, selecting, and advancing employees on the basis of their relative ability, knowledge, and skills, including open consideration of qualified applicants for initial appointment;

(2) Providing equitable and adequate compensation;

(3) Training employees, as needed, to assure high-quality performance;

(4) Retaining employees on the basis of the adequacy of their performance, correcting inadequate performance, and separating employees whose inadequate performance cannot be corrected;

(5) Assuring fair treatment of applicants and employees in all aspects of personnel administration without regard to political affiliation, race, color, national origin, sex, or religious creed and with proper regard for their privacy and constitutional rights as citizens; and

(6) Assuring that employees are protected against coercion for partisan political purposes and are prohibited from using their official authority for the purposes of interfering with or affecting the result of an election or a nomination for office.

§ 900.602 Uniform guidelines on employee selection procedures (1978).

(a) *Requirement.* The Uniform Guidelines on Employee Selection Procedures (1978) are a requirement of these Standards. Where adverse impact results from selection procedures which are used as a basis for any employment decision, they must be validated, modified, or changed in accordance with the Guidelines or otherwise demonstrated to be in accord with Federal law.

§ 900.603 Merit principle I.

(a) *General requirement.* Recruiting, selecting, and advancing employees will be on the basis of their relative ability, knowledge, and skills, including open consideration of qualified applicants for initial appointment.

§ 900.603-1 Recruitment.

(a) *Requirements.* Recruiting efforts will be planned and carried out in a manner that assures open competition. Special emphasis will be placed on recruiting efforts to attract minorities, women, or other groups that are substantially underrepresented in the agency work force to help assure they will be among the candidates from whom appointments are made.

(b) *Guide.* The recruiting program needs to be based upon planning to meet current and projected agency work force needs. Recruitment needs to be tailored to the number and type of positions to be filled and to labor market conditions. The recruiting efforts of the central personnel organization and the program agencies ought to be coordinated and carried out in a timely manner so as to permit successful competition with other employers.

§ 900.603-2 Selection and appointment.

(a) *Requirement.* (1) Selection procedures including appropriate ranking for entry to the career service will be job related and will maximize validity, reliability, and objectivity.

(2) Selection for entrance to the career service normally will be through open competition. Appointments to positions in the career service will be made on the basis of merit by selection from eligible lists established in accordance with the provisions of these Standards on recruitment, selection, and equal employment opportunity.

(3) Certification procedures will be established by State and local governments to insure that appointing officials review and give equitable consideration to an appropriate number of eligibles based on whatever ranking system is used on the list when making a selection for initial entry to the career service.

(4) Competition for appropriate positions may be limited to facilitate employment of those with a substantial physical or mental impairment, the economically disadvantaged or participants in employment or rehabilitation programs authorized by Congress or related programs authorized by State legislatures.

(5) In those occasional instances where there is evidence that open or limited competition is not practical, noncompetitive appointments may be made.

(6) Job related minimum requirements for entrance to a class will be established wherever they are practical. They will be met by all successful candidates examined, appointed, and promoted.

(7) Permanent appointment for entry to the career service will be contingent upon satisfactory performance by the employee during a reasonable, time limited probationary period.

(8) Temporary, provisional, or other nonstatus appointments will not be used as a way of defeating the purpose of the career service and will have a reasonable time limit. If lists of eligibles are available, they normally will be used for filling temporary positions. Short term emergency appointments may be made without regard to the other provisions of this section to provide for maintenance of essential services in an emergency situation where normal procedures are not practical.

(b) *Guide.* (1) More than one selection procedure should be used where that is necessary to measure the important skills, knowledges, and abilities needed for entry to a job. Any examination procedures including appropriate ranking utilized in career advancement or promotion programs need to be job related and to maximize validity, reliability and objectivity to the same extent as selection procedures for initial appointment. Adequate job analysis needs to be conducted to insure job relatedness of selection procedures.

(2) State and local governments have wide latitude in determining a manageable number of eligible candidates to refer for consideration for entrance to the career service. The procedures need to provide for selection based on relative ability, knowledge, and skills of the eligibles; for fair treatment without regard to an eligible's race, color, religion, sex, national origin, political affiliation, age, handicap, or other nonmerit factors except where provided for by Federal law; for the protection of the eligibles' privacy and constitutional rights; and for the equitable consideration of all eligibles.

(3) Provisions which would generally result in appointment from the whole list of eligibles or its equivalent would not meet the requirements of these Standards. Any one of a variety of approaches providing for appointment from among the most qualified available eligibles from lists meets the requirements of this section. For example, all candidates from a range of highest scores could be considered, or candidates could be ranked by broad groups, and appointments could be

made first from a best qualified category, and when it is substantially depleted, from a well qualified category, and third, from a qualified category or according to an equivalent system.

(4) Handicapped persons who have, have had, or are regarded as having a physical or mental impairment which substantially limits one or more major life activities, may be hired through limited competition or noncompetitive procedures.

(5) Noncompetitive procedures may be used where job related ranking measures are not practical or are not appropriate. They may be used for classes where the method of selection would have minimum impact on proper and efficient administration of the program such as unskilled positions or types of positions frequently exempted from merit systems.

(6) Minimum qualification and performance requirements and duties may be appropriately modified to permit the appointment and promotion of trainees to positions normally filled at full proficiency level.

(7) State and local governments are encouraged to provide for entry through cooperative education, work study, internship, and similar programs.

§ 900.603-3 Career advancement.

(a) *Requirement.* State and local government personnel systems can use a wide variety of approaches in promoting employees to higher level positions so long as they consider the eligible permanent employees in the agency or the career service and adequately assure that all persons promoted are qualified for the position.

(b) *Guide.* (1) The central personnel agency needs to certify to the eligibility of persons selected for promotion, or if that authority is delegated to operating agencies, it should be subject to an appropriate post audit by the central personnel agency.

(2) Systematic promotion methods are encouraged. They need to provide for competition among qualified career employees at appropriate points in the career advancement system. In addition, provisions need to be made to bring persons into the career service through open competition at higher levels where this will provide abilities not available among career employees, enrich the career service, or contribute to improved employment opportunities for underrepresented groups.

(3) Systems need to be established to provide improved opportunities for upward mobility through training, education, and career development assignments.

§ 900.604 Merit principle II.

(a) *General requirement.* Equitable and adequate compensation will be provided.

§ 900.604-1 Classification and compensation.

(a) *Requirement.* Classification and compensation plans will be maintained on a current basis. To maintain a high quality public work force and to assure equitable compensation for comparable work, the compensation plan will take into account the responsibility and difficulty of the work, the compensation needed to compete in the labor market and to stay in proper alignment with other agencies of the government, and other pertinent factors.

(b) *Guide.* (1) Classification plans need to be based on job analysis and should be utilized for decision making on compensation, selection, employee development, career advancement, upward mobility, and other personnel program activities. State and local government personnel systems can use a wide variety of job evaluation methodologies.

(2) Collective negotiation or meeting and conferring with employee organizations to achieve equitable and adequate compensation can be consistent with these Standards.

(3) In those programs in which States are responsible for supervision of local administration, States may determine whether local agency compensation will be governed by: A plan of the local government which covers other local agencies; a plan of the State which covers local grant-aided agencies; or a plan of the State which covers the agency responsible for State administration of Federal grants.

§ 900.605 Merit principle III.

(a) *General requirement.* Employees will be trained as needed to assure high-quality performance.

§ 900.605-1 Training.

(a) *Guide.* In addition to providing training to improve performance, State and local governments should also provide training as needed to prepare employees for more responsible assignments and to implement affirmative action plans for equal employment opportunity. Training programs should include systematic methods for assessing training needs, providing training to meet priority needs, selecting personnel for training and evaluating the training provided.

§ 900.606 Merit principle IV.

(a) *General requirement.* Employees will be retained on the basis of the adequacy of their performance and provision will be made for correcting inadequate performance and separating employees whose inadequate performance cannot be corrected.

§ 900.606-1 Layoffs, separations, and employee evaluations.

(a) *Requirement.* Employees who have acquired permanent status will not be subject to separation except for cause or such reasons as curtailment of work or lack of funds. Procedures will be established to provide for the transfer, demotion, or separation of employees whose performance continues to be inadequate after reasonable efforts have been made to correct it. Retention of employees in classes affected by reduction in force will be based upon systematic consideration of type of appointment and other relevant factors.

(b) *Guide.* (1) Employees need to be evaluated periodically on a systematic and job related basis to provide needed information for supervisors to assess the adequacy of individual employee performance in relation to performance requirements, for employees to recognize their own performance improvement needs, and as a basis for personnel actions including promotion, recognizing or rewarding superior performance, and correcting inadequate performance or separating employees in cases where inadequate performance cannot be corrected.

(2) No employee should be subject to separation or other disciplinary action for disclosure, not prohibited by law, of violations of laws, rules, or regulations or other improper actions. Mechanisms to protect such employees should include procedures by which they may report wrong doing or inefficiency to an independent body, prohibitions and protections against reprisals, and an appeal procedure for employees who suffer reprisal because of their disclosures.

(3) Quality of performance and length of service should be taken into account in reduction in force systems.

§ 900.607 Merit principle V.

(a) *General requirement.* Fair treatment of applicants and employees in all aspects of personnel administration without regard to race, color, religion, sex, national origin, political affiliation, age, handicap, or other nonmerit factors and with proper regard for their privacy and constitutional rights as citizens will be assured.

§ 900.607-1 Equal employment opportunity and affirmative action.

(a) *Requirement.* (1) equal employment opportunity will be assured for all persons by those actions appropriate to overcome the effects of past or present practices, policies or other barriers to equal employment opportunity. Affirmative action may include, but is not limited to, outreach recruitment to attract minorities, women, and other groups to apply, especially where they are substantially underrepresented; removal of artificial barriers to entry and advancement within the system; affirmative action to eliminate exclusion of any person from full and fair consideration for appointment or promotion; and enforcement of prohibitions of discrimination and impartial resolution of allegations of discrimination. (See the Equal Employment Opportunity Coordinating Council's *Policy Statement on Affirmative Action Programs for State and Local Government Agencies,* included in Appendix B.)

(2) Affirmative action programs consistent with merit principles will be developed and implemented for personnel services provided to and personnel administration within the grant-aided agencies. They will include identification and elimination of artificial barriers to equal employment opportunity. They will also include agency work force analyses to determine whether percentages of minorities and women employed in various job categories are substantially similar to percentages of those groups available in the relevant labor force who possess the basic job related qualifications. Where the percentages of minorities and women are not substantially similar, employment procedures will be analyzed to determine the cause of underrepresentation. The program will include development of a systematic action plan that is consistent with the merit principles and include the development of goals and timetables formulated to correct any substantial disparities or other problems identified in the analyses prescribed above.

(3) Periodic evaluation of results to assess the effectiveness of the affirmative action programs in achieving affirmative action goals on a timely basis will be undertaken.

(4) Prohibitions against discrimination consistent with the Civil Rights Act of 1964 as amended (42 U.S.C. 2000e *et seq.*), the Rehabilitation Act of 1973 as amended (29 U.S.C. 791 *et seq.*), the Age Discrimination in Employment Act of 1967 as amended (29 U.S.C. 621 *et seq.*), the Equal Pay Act of 1963 (29 U.S.C. 206(d)(1)) and other relevant statutes will be established by the State and local governments and enforced by them.

(b) *Guide.* (1) To help assure equal employment opportunity, a personnel system needs to prohibit the following practices where based on race, color, religion, sex, national origin, political affiliation, age, handicap or other nonmerit factors:

(i) Failing or refusing to hire or discharging any individual, or otherwise discriminating against any individual with respect to compensation, terms, conditions, or privileges of employment;

(ii) Limiting, segregation, or classifying employees or applicants for employment in any way which would deprive or tend to deprive any individual of employment opportunities or which would otherwise adversely affect an individual's status as an employee;

(iii) Failing or refusing to refer a candidate for employment;

(iv) Causing or attempting to cause an employer to discriminate against an individual;

(v) Discriminating against any individual in admission to, or employment in, any program established to provide training; or

(vi) Discriminating against an individual in any other aspect of personnel administration.

(2) Federal law provides for an exception from the general rule prohibiting discrimination in cases in which religion, sex, national origin, or age is a bona fide occupational qualification for employment. However, court cases and other interpretations indicate that there are few, if any, jobs to which this exception can be applied in programs covered by these Standards.

(3) Goals and timetables need to be flexible and include both numerical targets and action steps.

(4) Employment selection procedures need to reflect the job related knowledges, skills, abilities of handicapped applicants or employees rather than their impairments.

(5) In developing affirmative action plans, agency work force analyses and problem identification normally need to be based upon the percentage of qualified persons by race, sex, and ethnic group available in the relevant labor force where such data are available. Where these data are not available, total labor force may be used for this purpose. The Office of Personnel Management will review State or local government analyses of their organization's work forces by individual job classifications or by classification series or occupational groupings, as appropriate.

(6) Systems which collect data on race, sex, or ethnic group without self identification by employees or applicants are encouraged under Title VII of the Civil Rights Act. However, self identification may be necessary where all other means of gathering these data are not feasible, as in unassembled examinations. Disclosure of their own race, sex, or ethnic group by employees or applicants should be voluntary. The applicant or employee should be informed clearly of the nondiscriminatory purpose, necessity to comply with Federal and other recordkeeping requirements, and precautions which will be taken to assure nondiscriminatory use of such information. Data on race, sex, and national origin should be collected and maintained separately from individual application and personnel forms.

(7) State and local govenments are encouraged to involve employee organizations in the formulation of affirmative action plans.

§ 900.607-2 Employee management relations.

(a) *Guide.* (1) The proper and efficient administration of Federal grant-in-aid programs by State and local governments and the well-being of the employees of such programs require effective communication and an orderly and constructive relationship between employees and management officials. Collective negotiations, meeting and conferring with employee organizations, or other methods can make positive contributions to the communications process by providing employees an opportunity to participate in the formulation of policies and practices affecting the conditions of their employment.

(2) State and local government policies need to delineate the rights of employees of programs covered by these Standards to form, join, and assist an employee organization or to refrain from any such activity, freely and without fear of penalty or reprisal.

(3) To facilitate effective participation in formulation of personnel policies by employees, State and local governments which establish a formal framework need to address all aspects of the labor management relationship and ought to indicate the rights and obligations of both management officials and employees; subjects for negotiating or meeting and conferring; criteria for recognition of employee organizations, determination of units, and resolution of impasses; and unfair labor practices and standards of conduct.

(4) The objectives of these provisions may be achieved through legislative enactment, promulgation of an executive order by the chief executive, or through the rules and regulations of the agency directly responsible for administering a program covered by the Standards.

(5) The maintenance of a system of personnel administration based on merit principles needs to be assured in any collective negotiation or meet and confer system established.

(6) In the interest of effective administration of the Standards, the Office of Personnel Management has established procedures to insure that affected employee organizations are as fully informed of their administration as is feasible. State agencies which are responsible for supervising local compliance with these Standards should

adopt similar procedures. State and local governments need to adopt their own internal procedures to insure that affected employee organizations are as fully informed as feasible on administration of the Standards.

§ 900.607-3 Appeals.

(a) *Requirement.* In the event of separation or demotion, State and local governments will provide permanent employees with the right to appeal through an impartial process that may be recommendatory to or enforceable on the appointing authority. In addition, State and local governments will provide for appeals of alleged discrimination in any personnel action on the basis of race, color, religion, sex, national origin, political affiliation, age, handicap or other nonmerit factors by any applicant or employee through an impartial process that will result in timely, enforceable decisions.

(b) *Guide.* An impartial grievance procedure may satisfactorily meet the above requirements but adequate appeal provisions need to be maintained for applicants and any employees not covered by the grievance procedure. State and local government personnel systems need to include an impartial procedure to process all types of employee grievances. To the maximum extent possible, grievance procedures should include steps to resolve discrimination and all other types of employee grievances without recourse to formal appeals procedures.

§ 900.608 Merit principle VI.

(a) *General requirement.* State and local governments will inform their employees of their political rights and prohibited practices under the Hatch Act.

§ 900.608-1 Political activity.

(a) *Guide.* (1) The Hatch Act, as amended, 5 U.S.C. 1501-1508, prohibits certain types of political activity on the part of State and local government employees whose principal employment is in a federally funded program, irrespective of whether their positions are covered by these Standards.

(2) State and local governments ought to adopt and themselves enforce provisions on political activity which are consistent with the Federal Hatch Act and which will facilitate their effective control of prohibited political activity by employees.

(3) State and local government policies on political activity need to insure that all employees have the right to express their views as citizens, to pursue their legitimate involvement in the political system, and to vote; that employees not engage in or be subject to coercion for political purposes, and not seek candidacy for public office in a partisan election.

§ 900.609 Administration of State and local personnel systems.

(a) *General.* This section consists of regulations and guides on the administration of State and local personnel systems.

§ 900.609-1 Coverage of the standards.

(a) *Requirement.* (1) These Standards are applicable to all State and local personnel, except those exempted in this section, engaged in the administration of grant-in-aid and other intergovernmental programs under Federal laws and regulations requiring the establishment and maintenance of personnel standards on a merit basis. To help assure the recruitment, selection, and advancement of highly qualified personnel and continuity of program administration, career coverage will be provided by State and local personnel systems for all non-exemptible management, supervisory, technical, and other positions in grant-aided programs, irrespective of their source of funds for the salaries.

(2) To assure proper organizational responsiveness, appropriate numbers of top level positions may be exempted if they determine and publicly advocate substantive program policy, provide legal counsel, or are required to maintain a direct confidential working relationship with a key exempt official. State and local governments have flexibility in determining whether top level policy positions will be filled on a career or exempt basis so long as the number of positions filled on an exempt basis does not exceed the number in the agency which may be exempt on the basis that they determine and publicly advocate substantive program policy. Unskilled laborers, bona fide part-time positions, temporary positions established for the purpose of conducting a special project, study, or investigation, and severely handicapped persons may be exempted if such exemption would not have an undesirable impact on proper and efficient administration or on the achievement of equal employment opportunity.

(b) *Guide.* (1) State and local governments may exempt from the application of these standards members of boards or similar bodies who do not perform administrative duties as individuals; officials serving ex officio and performing incidental administrative duties; the executive heads of agencies and positions reporting directly to them which are primarily responsible for both substantive program policy determination and its public advocacy; confidential assistants to the above positions; and attorneys serving as legal counsel or conducting litigation.

(2) Normally, positions involving only policy development may not be exempted. Generally, positions involving policy determination and public advocacy that are engaged in the direction of line operations may be exempted from the Standards only when they report directly to the executive head of an agency. An exception to this reporting relationship may be made within the primary components of large multiprogram agencies where the heads of such primary components and positions reporting directly to them may also be exempted.

(3) The exclusion of management positions from collective bargaining is not a basis for exemption of such positions from the merit system.

(4) Upon exemption of a position from the career service, incumbents with permanent status retain their career service tenure or are appropriately compensated for its loss.

(5) State and local governments are encouraged to develop systems for assigning career management employees to exempt policy determining and advocacy, confidential and other key positions without tenure in such a position but with reinstatement rights to a career service position. These systems allow chief executives to place highly qualified career employees in key jobs without sacrificing responsiveness to new program direction or to the chief executive.

(6) Job related qualification requirements should be established for positions exempted from these Standards.

§ 900.609-2 Organization.

(a) *Requirement.* (1) A State or local government's merit system organization will provide for impartial administration.

(2) At the option of the State, a local government which does not have a jurisdiction-wide personnel system meeting these Standards may elect one of the following:

(i) To cover grant-aided programs under a personnel system serving other grant-aided agencies covered by the Standards, such as a system serving State agencies, another city or county, or a group of local jurisdictions;

(ii) To cover grant-aided programs using a personnel system which is not jurisdiction-wide where this is warranted as the basis for future development of a jurisdiction-wide system.

(3) Where no State agency is responsible for local government administration, approval of the Office of Personnel Management will be required for coverage by a personnel system under paragraph (a)(2) (i) or (ii) of this section.

(b) *Guide.* (1) Any one of a variety of personnel system organizations covering substantially all employees in a State or local government or the State grant-aided agencies can meet the requirements of this section. Personnel organizations need to be administered by a qualified executive responsible to the chief executive, a top official, or a board or commission. Staff ought to be appointed on the basis of merit and serve in accordance with the provisions of the personnel system.

(2) The personnel management function needs to be provided with sufficient staff and other resources to enable it to give effective personnel administration support to the grant-aided agencies.

(3) In the interest of economy, efficiency, and effectiveness, a single personnel system is needed to cover all of the grant-aided agencies in a jurisdiction subject to these Standards.

(4) Examples of methods which State governments may adopt to help maintain impartial administration include:

(i) Administration in accordance with laws, rules, and regulations open to public scrutiny;

(ii) Establishment of non-partisan or bipartisan boards or commissions with oversight, investigation, or appeal functions;

(iii) Maintenance of impartial grievance or appeal systems which provide for disqualification because of conflicts of interest of hearings examiners or others who decide appeals from employees;

(iv) Appointment of the staff of the personnel agency on the basis of merit with their service in accordance with the provisions of the merit system;

(v) Employment of the best professionally qualified director available after widespread recruitment;

(vi) Administration by a central personnel agency or by other agencies with a post audit by a central agency with effective enforcement authority to correct improper actions;

(vii) Prohibition of consideration of political opinions or affiliations in examination for or appointment to a position, promotion, or in any other personnel action.

§ 900.609-3 Intergovernmental cooperation.

(a) *Guide.* To facilitate public service mobility and maximum utilization of personnel resources, provisions should be made for: Cooperative interjurisdictional recruiting, examining, certifying, selection, training, research and development, and other personnel functions; adding to registers of eligibles the names of applicants with eligibility on comparable examinations in other jurisdictions; appointing employees on the basis of their permanent career status in another jurisdiction, with maximum protection of their retirement and other benefits.

§ 900.609-4 Extension of personnel system.

(a) *Requirement.* Employees with permanent status under a personnel system meeting these Standards will retain comparable status if the employing agency is placed under the jurisdiction of another personnel system.

(b) *Guide.* As determined by the State, upon the initial extension of the personnel system to a program, incumbents may obtain permanent status through an open competitive or qualifying examination, or if they have a specified period of satisfactory service in the agency, at its discretion, they may be granted permanent status. If they do not pass a required examination, employees may be retained in the positions in which they have incumbency preference without acquiring the rights of career status.

§ 900.609-5 Personnel records and reports.

(a) *Requirement.* (1) Appropriate personnel records will be maintained to assure the proper administration of the personnel system and covered agency personnel programs. Periodic reports, such as statistical reports on personnel administration, will be prepared as required by the Office of Personnel Management to indicate compliance with applicable State and local requirements and these Standards.

(2) Each covered State or local agency and each affected State or local merit system agency shall permit the Office of Personnel Management during normal business hours to review its books, records, and other sources of information as may be required to ascertain compliance with these Standards.

(3) Each covered State or local agency shall furnish annually to the Office of Personnel Management completed report OPM Form 1129, Review of Personnel Operations—Grant-Aided Agency, and other reports as may be required to show compliance with these Standards.

(4) Each affected State and local merit system agency shall furnish annually to the Office of Personnel Management completed report OPM Form 1128, Review of Personnel Operations—Merit System Agency.

(b) *Guide.* State and local governments should provide employees with opportunities to review information in their employee files to assure the accuracy of that information. Appropriate limitations on access to employee records should be established in order to protect the privacy of public employees.

§ 900.610 Assuring conformity with the Standards.

(a) *General.* This section consists of regulations on administration of these Standards.

§ 900.610-1 Role of chief executive.

(a) *Requirement.* (1) Certification of agreement by the chief executive of the jurisdiction (hereinafter "certification") to maintain a system of personnel administration in conformance with these Standards is an eligibility requirement in grant or other programs to which personnel standards on a merit basis are applicable.

(2) The Governor shall designate an agency or agencies which will be responsible for supervising local compliance with these Standards. This agency will obtain certifications from local chief executives. The States must maintain these certifications and make them available to the Office of Personnel Management on request.

(3) Where no State agency is responsible for local government administration, local governments can transmit all required certifications and applications for waiver provided for in these regulations directly to the appropriate regional office of the Office of Personnel Management.

(4) Certifications are to be submitted by the Governor to the Office of Personnel Management within six months of the effective date of issuance of these Standards.

(5) Subsequent certifications will be submitted within 90 days after they have been requested, to the appropriate Office of Personnel Management regional office or the State agency responsible for local administration for the following reasons:

(i) Upon change in incumbent chief executives;

(ii) Upon initial application for a Federal grant-in-aid or eligibility for other intergovernmental programs;

(iii) Upon passage of significant new personnel legislation affecting a State's merit system;

(iv) Upon major reorganization or restructuring of the personnel system of the jurisdiction; or,

(v) Upon determination that there exist major problems or apparent significant departures from the principles.

(6) A chief executive may indicate that grant-aided or other programs not previously covered by these Standards are not currently in compliance with the Standards and submit a specific action plan and reasonable timetable for achieving compliance for approval by the Office of Personnel Management or State agency responsible for compliance.

(7) Before signing a certification, a chief executive may request advice and assistance from the Office of Per-

sonnel Management or State agency responsible for local administration in order to determine whether the agencies under the chief executive's jurisdiction are in compliance with the Standards. Such assistance and or negotiations may continue beyond the specified time requirement for the chief executive's certification. In the absence of such a certification, temporary assurance as to compliance with the Standards may be effected by:

(i) Obtaining certification from the heads of those State and local agencies which are required to have merit personnel systems as a condition of Federal grant-in-aid or other intergovernmental programs; or

(ii) The Office of Personnel Management regional office or State agency responsible for compliance may conduct an advance personnel management evaluation of those agencies subject to the Standards.

§ 900.610-2 Waiver of Standards for local government.

(a) *Requirement.* (1) Chief executives of local governments with fewer than twenty-five employees in all activities covered by these Standards may apply to the State agency designated by the Governor to supervise local compliance with the Standards for a waiver of the requirements in the Standards on the basis that compliance is impractical. Normally, if any State or local merit system meeting these Standards has jurisdiction over the local programs, it will be considered practical to continue to apply the Standards in those local programs. Applications for waivers are subject to approval by appropriate State grant-aided or other agencies responsible for local program administration, and if endorsed by them must be forwarded to the appropriate Office of Personnel Management regional office for final approval.

(2) The chief executive of a jurisdiction which requests a waiver as provided above must certify that personnel administration in the grant-aided programs will be consistent with the six merit principles in the Intergovernmental Personnel Act. Evaluation of local personnel administration in such agencies will be conducted by the State agency supervising local compliance with the Standards and will be initiated only when a complaint has been received alleging practices inconsistent with the merit principles. Where there is no such State agency, such evaluations will be conducted by the Office of Personnel Management. Subsequent certification may be required in accordance with the provisions of § 900.610-1.

§ 900.610-3 Waiver of standards for experimental or research projects.

(a) *Requirement.* (1) The Office of Personnel Management, at the request of the Governor or of the Governor's designee(s) on behalf of the State or its local governments, may waive for a State or local government for up to a two-year period, with the possibility of extension, any one or a combination of the provisions of these Standards, for experimental or research projects designed to improve merit systems or their operations. Upon completion, the project will be evaluated to determine whether its objectives have been achieved.

(2) Requests for such waivers should be sent to the appropriate regional office of the Office of Personnel Management. Requests for waivers from local jurisdictions will be submitted by the local chief executives to the State agency designated by the Governor to supervise local compliance with the Standards. Any recommendation by the State for approval of a waiver from a local government shall be submitted to the appropriate Office of Personnel Management regional office for approval before implementation.

§ 900.610-4 Policy basis for merit system.

(a) *Requirement.* (1) Laws, rules, regulations, policy statements and negotiated agreements impacting on a personnel system subject to these Standards must provide for a system of personnel administration based on merit. This policy basis and the administration of the personnel system will be subject to review for substantial conformity to the Standards.

(2) Changes in the policy basis will be made available promptly to the Office of Personnel Management or the State agency responsible for local administration, as appropriate, on an informational basis so that the jurisdiction may be advised regarding any problems which could affect the jurisdiction's ability to implement the certification of the chief executive.

§ 900.610-5 Review of personnel operations.

(a) *Requirement.* (1) The Office of Personnel Management, in cooperation with the appropriate Federal agency, shall make or arrange for onsite reviews of each State merit system agency and other affected State agencies to determine compliance with the Standards, except that reviews of the latter agencies by the State merit system agency or other appropriate organization, at the discretion of the Office of Personnel Management may be accepted in lieu of Office of Personnel Management reviews.

(2) The agency designated by the Governor to supervise local compliance with the Standards, in consultation with the appropriate regional office of the Office of Personnel Management, shall make or arrange for onsite reviews of the operations of the merit system for and personnel program of each local agency to determine compliance with the Standards and will take appropriate steps to insure corrective action when necessary.

§ 900.610-6 Compliance and assistance.

(a) *Requirement.* (1) The Office of Personnel Management, when corrective action is required, will negotiate with the appropriate State or local agency to achieve compliance and will coordinate its activities with the appropriate Federal agency.

(2) The Office of Personnel Management shall request the appropriate Federal agency to render assistance when required to achieve compliance.

(3) The Office of Personnel Management, when there is a question of substantial conformity with the Standards after negotiation or the rendering of necessary technical assistance, shall forward its findings to the appropriate Federal agency, recommending that grant termination procedures or other appropriate action be initiated, in accordance with that Federal agency's regulations.

§ 900.611 Establishing a merit requirement or policy.

(a) *Requirement.* (1) Federal agencies may adopt, only with prior approval of the Office of Personnel Management, regulations that require as a condition for receiving Federal financial or other assistance or otherwise participating in an intergovernmental program, that State and local agencies establish and maintain a personnel system that conforms with a Federal merit requirement or policy. To avoid inconsistent and conflicting approaches to State and local governments, normally such merit requirements or policies should consist of application of these Standards pursuant to Section 208 of the Intergovernmental Personnel Act of 1970 as amended by Section 602(a) of the Civil Service Reform Act of 1978.

(2) The following regulation shall be adopted by Federal agencies that wish to require that State and local agencies establish and maintain a personnel system that conforms with these Standards:

> "Methods of personnel administration will be established and maintained in public agencies administering the program in conformity with the Standards for a Merit System of Personnel Administration, 5 CFR Part 900 which incorporate the Intergovernmental Personnel Act Merit Principles (Pub. L. 91-648 § 2, 84 Stat. 1909), prescribed by the Office of Personnel Management pursu-

ant to Section 208 of the Intergovernmental Personnel Act of 1970 as amended."

(3) For grant or other programs that are State supervised and locally administered, insert the following after the word "administering" in the above: "or supervising the administration of."

(4) No variation from the language contained in paragraphs (a) (2) and (3) of this section may be used without approval by the Office of Personnel Management.

(5) The Office of Personnel Management shall provide, within available resources, consultation and technical advice and assistance to State and local jurisdictions to aid them in complying with the Standards. In the absence of available resources, the Office of Personnel Management may provide technical assistance on a reimbursable basis to Federal, State, and local agencies administering programs covered by these Standards to facilitate compliance with the Standards.

§ 900.612-620 [Reserved]

APPENDIX A TO THE STANDARDS FOR A MERIT SYSTEM OF PERSONNEL ADMINISTRATION

PART I: The following programs have a statutory requirement for the establishment and maintenance of personnel standards on a merit basis:

Program, Legislation, and Statutory Reference

Food Stamp, Food Stamp Act of 1964, as amended; 7 U.S.C. 2020(e)(6)(B).

Drug Abuse Prevention, Drug Abuse Office and Treatment Act of 1972, § 409, on March 21, 1972; 21 U.S.C. § 1176(e)(8).

National Health Planning and Resources Development, Public Health Service Act (Title XV), as amended by the National Health Planning and Resources Development Act of 1974 § 1522, on January 2, 1975, 42 U.S.C. § 300m-1(b)(4)(B).

Medical Facilities Assistance (Construction and Modernization), Public Health Service Act (Title XVI), as amended by the National Health Planning and Resources Development Act of 1974, § 1603, on January 2, 1975; 42 U.S.C. § 300o-2(b).

Old-Age Assistance*, Social Security Act (Title I), as amended by the Social Security Act Amendments of 1939, § 101, on August 10, 1939; 42 U.S.C. § 302(a)(5)(A).

Employment Security (Unemployment Insurance and Employment Service), Social Security Act (Title III), as amended by the Social Security Act Amendments of 1939, § 301, on August 10, 1939, and the Wagner-Peyser Act, as amended by Public Law 81-775, § 2, on September 8, 1950; 42 U.S.C. § 503(a)(1) and 29 U.S.C. § 49d(b).

Aid to Families with Dependent Children (AFDC), Social Security Act (Title IV-A), as amended by the Social Security Act Amendments of 1939, § 401, on August 10, 1939; 42 U.S.C. § 602(a)(5).

Maternal and Child Health Services/Crippled Children Services, Social Security Act (Title V), as amended by the Social Security Act Amendments of 1939, § 503, on August 10, 1939; 42 U.S.C. § 705(a)(3)(A).

Aid to the Blind*, Social Security Act (Title X), as amended by the Social Security Act Amendments of 1939, § 701, on August 10, 1939; 42 U.S.C. § 1202(a)(5)(A).

Aid to the Permanently and Totally Disabled*, Social Security Act (Title XIV), as amended by the Social Security Act Amendments of 1950, § 1402, on August 28, 1950, 42 U.S.C. § 1352(a)(5)(A).

Aid to the Aged, Blind or Disabled*, Social Security Act (Title XVI), as amended by the Public Welfare Amendments of 1962, § 1602, on July 25, 1962; 42 U.S.C. § 1382(a)(5)(A).

Medical Assistance (Medicaid), Social Security Act (Title XIX), as amended by the Social Security Amendments of 1965, § 1902, on July 30, 1965; 42 U.S.C. § 1396a(a)(4)(A).

Grants to States for Social Services, Social Security Act (Title XX), as amended by the Social Services Amendments of 1974, § 2003, on January 4, 1975; 42 U.S.C. § 1397b(d)(1)(D).

Comprehensive Mental Health Services (Services and Facilities), Community Mental Health Centers Act (Title II), as amended by the Community Mental Health Centers Amendments of 1975, § 303, on July 29, 1975; 42 U.S.C. § 2689t(a)(1)(D).

State and Community Programs on Aging (Older Americans), Older Americans Act of 1965 (Title III), as amended by the Comprehensive Older Americans Act Amendments of 1978, § 307 on October 18, 1978; 42 U.S.C. 3027(a)(4).

Comprehensive Alcohol Abuse and Alcoholism Prevention, Treatment, and Rehabilitation, Comprehensive Alcohol Abuse and Alcoholism Prevention, Treatment, and Rehabilitation Act of 1970 (Title III), § 303, on December 31, 1970; 42 U.S.C. § 4573(a)(5).

Civil Defense Personnel and Administrative Expenses, Civil Defense Act of 1950 (Title II), as amended by Public Law 94-361, § 804, on July 14, 1976; 50 U.S.C. App. 2286(a)(4).

PART II: The following programs have a regulatory requirement for the establishment and maintenance of personnel standards on a merit basis

Program, Legislation, and Regulatory Reference

Occupational Safety and Health Standards, Williams-Steiger Occupational Safety and Health Act of 1970; 29 CFR § 1902.3(h).

Occupational Safety and Health Statistics, Williams-Steiger Occupational Safety and Health Act of 1970; BLS Grant Application Kit, May 1, 1973, Supplemental Assurance No. 15A.

Child Welfare Services, Social Security Act (Title IV-B), especially as amended by the Social Security Amendments of 1967, on January 2, 1968; 45 CFR § 220.49(c).

Developmental Disabilities Services and Facilities Construction, Developmental Disabilities Services and Facilities Construction Act, as amended by Pub. L. 95-602, on November 6, 1978, 45 CFR 1386.21.

PART III: The following programs have a personnel requirement which may be met by a merit system which conforms to the Standards for a Merit System of Personnel Administration:

Program, Legislation, and Reference

Comprehensive Employment and Training Act, Comprehensive Employment and Training Act of 1973; 29 CFR § 98.14(a).

Vocational Rehabilitation Services, Rehabilitation Act of 1973 (Titles I), as amended; 45 CFR § 1361.15(b).

Disability Determination Services, Social Security Act (Title II and XVI), as amended; SSA Disability Insurance State Manual, Part IV, § 425.1.

Health Insurance for the Aged (Medicare), Social Security Act (Title XVIII), especially as amended by the Health Insurance for the Aged Act, on July 30, 1965; SSA State Operations Manual, Part IV, § 4510(a).

APPENDIX B TO THE STANDARDS FOR A MERIT SYSTEM OF PERSONNEL ADMINISTRATION

UNIFORM GUIDELINES ON EMPLOYEE SELECTION PROCEDURES (1978)

NOTE.—These guidelines are issued jointly by four agencies as follows: Civil Service Commission, Department of Justice, Equal Employment Opportunity Commission, Department of Labor.

For official citation see section 18 of these guidelines.

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*Pub. L. 92-603 repealed Titles I, X, XIV, and XVI of the Social Security Act, effective January 1, 1974, except that "such repeal does not apply to Puerto Rico, Guam, and the Virgin Islands."

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GENERAL PRINCIPLES

SECTION 1. *Statement of purpose.*—A. *Need for uniformity—Issuing agencies.* The Federal Government's need for a uniform set of principles on the question of the use of tests and other selection procedures has long been recognized. The Equal Employment Opportunity Commission, the Civil Service Commission, the Department of Labor, and the Department of Justice jointly have adopted these uniform guidelines to meet that need, and to apply the same principles to the Federal Government as are applied to other employers.

B. *Purpose of guidelines.* These guidelines incorporate a single set of principles which are designed to assist employers, labor organizations, employment agencies, and licensing and certification boards to comply with requirements of Federal law prohibiting employment practices which discriminate on grounds of race, color, religion, sex, and national origin. They are designed to provide a framework for determining the proper use of tests and other selection procedures. These guidelines do not require a user to conduct validity studies of selection procedures where no adverse impact results. However, all users are encouraged to use selection procedures which are valid, especially users operating under merit principles.

C. *Relation to prior guidelines.* These guidelines are based upon and supersede previously issued guidelines on employee selection procedures. These guidelines have been built upon court decisions, the previously issued guidelines of the agencies, and the practical experience of the agencies, as well as the standards of the psychological profession. These guidelines are intended to be consistent with existing law.

Sec. 2. *Scope.*—A. *Application of guidelines.* These guidelines will be applied by the Equal Employment Opportunity Commission in the enforcement of title VII of the Civil Rights Act of 1964, as amended by the Equal Employment Opportunity Act of 1972 (hereinafter "Title VII"); by the Department of Labor, and the contract compliance agencies until the transfer of authority contemplated by the President's Reorganization Plan No. 1 of 1978, in the administration and enforcement of Executive Order 11246, as amended by Executive Order 11375 (hereinafter "Executive Order 11246"); by the Civil Service Commission and other Federal agencies subject to section 717 of Title VII; by the Civil Service Commission in exercising its responsibilities toward State and local governments under section 208(b)(1) of the Intergovernmental-Personnel Act; by the Department of Justice in exercising its responsibilities under Federal law; by the Office of Revenue Sharing of the Department of the Treasury under the State and Local Fiscal Assistane Act of 1972, as amended; and by any other Federal agency which adopts them.

B. *Employment decisions.* These guidelines apply to tests and other selection procedures which are used as a basis for any employment decision. Employment decisions include but are not limited to hiring, promotion, demotion, membership (for example, in a labor organization), referral, retention, and licensing and certification, to the extent that licensing and certification may be covered by Federal equal employment opportunity law. Other selection decisions, such as selection for training or transfer, may also be considered employment decisions if they lead to any of the decisions listed above.

C. *Selection procedures.* These guidelines apply only to selection procedures which are used as a basis for making employment decisions. For example, the use of recruiting procedures designed to attract members of a particular race, sex, or ethnic group, which were previously denied employment opportunities or which are currently underutilized, may be necessary to bring an employer into compliance with Federal law, and is frequently an essential element of any effective affirmative action program; but recruitment practices are not considered by these guidelines to be selection procedures. Similarly, these guidelines do not pertain to the question of the lawfulness of a seniority system within the meaning of section 703(h), Executive Order 11246 or other provisions of Federal law or regulation, except to the extent that such systems utilize selection procedures to determine qualifications or abilities to perform the job. Nothing in these guidelines is intended or should be interpreted as discouraging the use of a selection procedure for the purpose of determining qualifications or for the purpose of selection on the basis of relative qualifications, if the selection procedure had been validated in accord with these guidelines for each such purpose for which it is to be used.

D. *Limitations.* These guidelines apply only to persons subject to Title VII, Executive Order 11246, or other equal employment opportunity requirements of Federal law. These guidelines do not apply to responsibilities under the Age Discrimination in Employment Act of 1967, as amended, not to discriminate on the basis of age, or under sections 501, 503, and 504 of the Rehabilitation Act of 1973, not to discriminate on the basis of handicap.

E. *Indian preference not affected.* These guidelines do not restrict any obligation imposed or right granted by Federal law to users to extend a preference in employment to Indians living on or near an Indian reservation in connection with employment opportunities on or near an Indian reservation.

Sec. 3. *Discrimination defined: Relationship between use of selection procedures and discrimination.*—A. *Procedure having adverse impact constitutes discrimination unless justified.* The use of any selection procedure which has an adverse impact on the hiring, promotion, or other employment or membership opportunities of members of any race, sex, or ethnic group will be considered to be discriminatory and inconsistent with these guidelines, unless the procedure has been validated in accordance with these guidelines, or the provisions of section 6 below are satisfied.

B. *Consideration of suitable alternative selection procedures.* Where two or more selection procedures are available which serve the user's legitimate interest in efficient and trustworthy workmanship, and which are substantially equally valid for a given purpose, the user should use the procedure which has been demonstrated to have the lesser adverse impact. Accordingly, whenever a validity study is called for by these guidelines, the user should include, as a part of the validity study, an investigation of suitable alternative selection procedures and suitable alternative methods of using the selection procedure which have as little adverse impact as possible, to determine the appropriateness of using or validating them in accord with these guidelines. If a user has made a reasonable effort to become aware of such alternative procedures and validity has been demonstrated in accord with these guidelines, the use of the test or other selection procedure may continue until such time as it should reasonably be reviewed for currency. Whenever the user is shown an alternative selection procedure with evidence of less adverse impact and substantial evidence of validity for the same job in similar circumstances, the user should investigate it to determine the appropriateness of using or validating it in accord with these guidelines. This subsection is not intended to preclude the combination of procedures into a significantly more valid procedure, if the use of such a combination has been shown to be in compliance with the guidelines.

Sec. 4. *Information on impact.*—A. *Records concerning impact.* Each user should maintain and have available for inspection records or other information which will disclose the impact which its tests and other selection procedures have upon employment opportunities of persons by identifiable race, sex, or ethnic group as set forth in subparagraph B below in order to determine compliance with these guidelines. Where there are large numbers of applicants and procedures are administered frequently, such information may be retained on a sample basis, provided that the sample is appropriate in terms of the applicant population and adequate in size.

B. *Applicable race, sex, and ethnic groups for recordkeeping.* The records called for by this section are to be maintained by sex, and the following races and ethnic groups: Blacks (Negroes), American Indians (including Alaskan Natives), Asians (including Pacific Islanders), Hispanic (including persons of Mexican, Puerto Rican, Cuban, Central or South American, or other Spanish origin or culture regardless of race), whites (Caucasians) other than Hispanic, and totals. The race, sex, and ethnic classifications called for by this section are consistent with the Equal Employment Opportunity Standard Form 100, Employer Information Report EEO-1 series of reports. The user should adopt safeguards to insure that the records required by this paragraph are used for appropriate purposes such as determining adverse impact, or (where required) for developing and monitoring affirmative action programs, and that such records are not used improperly. See sections 4E and 17(4), below.

C. *Evaluation of selection rates. The "bottom line."* If the information called for by sections 4A and B above shows that the total selection process for a job has an adverse impact, the individual components of the selection process should be evaluated for adverse impact. If this information shows that the total selection process does not have an adverse impact, the Federal enforcement agencies, in the exercise of their administrative and prosecutorial discretion, in usual circumstances, will not expect a user to evaluate the individual components for adverse impact, or to validate such individual components, and will not take enforcement action based upon adverse impact of any component of that process, including the separate parts of a multipart selection procedure or any separate procedure that is used as an alternative method of selection. However, in the following circumstances the Federal enforcement agencies will expect a user to evaluate the individual components for adverse impact and may, where appropriate, take enforcement action with respect to the individual components: (1) where the selection procedure is a significant factor in the continuation of patterns of assignments of incumbent employees caused by prior discriminatory employment practices, (2) where the weight of court decisions or administrative interpretations hold that a specific procedure (such as height or weight requirements or no-arrest records) is not job related in the same or similar circumstances. In unusual circumstances, other than those listed in (1) and (2) above, the Federal enforcement agencies may request a user to evaluate the individual components for adverse impact and may, where appropriate, take enforcement action with respect to the individual component.

D. *Adverse impact and the "four-fifths rule."* A selection rate for any race, sex, or ethnic group which is less than four-fifths (⅘) (or eighty percent) of the rate for the group with the highest rate will generally be regarded by the Federal enforcement agencies as evidence of adverse impact, while a greater than four-fifths rate will generally not be regarded by Federal enforcement agencies as evidence of adverse impact. Smaller differences in selection rate may nevertheless constitute adverse impact, where they are significant in both statistical and practical terms or where a user's actions have discouraged applicants disproportionately on grounds of race, sex, or ethnic group. Greater differences in selection rate may not constitute adverse impact where the differences are based on small numbers and are not statistically significant, or where special recruiting or other programs cause the pool of minority or female candidates to be atypical of the normal pool of applicants from that group. Where the user's evidence concerning the impact of a selection procedure indicates adverse impact but is based upon numbers which are too small to be reliable, evidence concerning the impact of the procedure over a longer period of time and/or evidence concerning the impact which the selection procedure had when used in the same manner in similar circumstances elsewhere may be considered in determining adverse impact. Where the user has not maintained data on adverse impact as required by the documentation section of applicable guidelines, the Federal enforcement agencies may draw an inference of adverse impact of the selection process from the failure of the user to maintain such data, if the user has an underutilization of a group in the job category, as compared to the group's representation in the relevant labor market or, in the case of jobs filled from within, the applicable work force.

E. *Consideration of user's equal employment opportunity posture.* In carrying out their obligations, the Federal enforcement agencies will consider the general posture of the user with respect to equal employment opportunity for the job or group of jobs in question. Where a user has adopted an affirmative action program, the Federal enforcement agencies will consider the provisions of that program, including the goals and timetables which the user has adopted and the progress which the user has made in carrying out that program and in meeting the goals and timetables. While such affirmative action programs may in design and execution be race, color, sex, or ethnic conscious, selection procedures under such programs should be based upon the ability or relative ability to do the work.

SEC. 5. *General standards for validity studies.—*A. *Acceptable types of validity studies.* For the purposes of satisfying these guidelines, users may rely upon criterion-related validity studies, content validity studies or construct validity studies, in accordance with the standards set forth in the technical standards of these guidelines, section 14 below. New strategies for showing the validity of selection procedures will be evaluated as they become accepted by the psychological profession.

B. *Criterion-related, content, and construct validity.* Evidence of the validity of a test or other selection procedure by a criterion-related validity study should consist of empirical data demonstrating that the selection procedure is predictive of or significantly correlated with important elements of job performance. See section 14B below. Evidence of the validity of a test or other selection procedure by a content validity study should consist of data showing that the content of the selection procedure is representative of important aspects of performance on the job for which the candidates are to be evaluated. See section 14C below. Evidence of the validity of a test or other selection procedure through a construct validity study should consist of data showing that the procedure measures the degree to which candidates have identifiable characteristics which have been determined to be important in successful performance in the job for which the candidates are to be evaluated. See section 14D below.

C. *Guidelines are consistent with professional standards.* The provisions of these guidelines relating to validation of selection procedures are intended to be consistent with generally accepted professional standards for evaluating standardized tests and other selection procedures, such as those described in the Standards for Educational and Psychological Tests prepared by a joint committee of the American Psychological Association, the American Educational Research Association, and the National Council on Measurement in Education (American Psychological Association, Washington, D.C., 1974) (hereinafter "A.P.A. Standards") and standard textbooks and journals in the field of personnel selection.

D. *Need for documentation of validity.* For any selection procedure which is part of a selection process which has an adverse impact and which selection procedure has an adverse impact, each user should maintain and have available such documentation as is described in section 15 below.

E. *Accuracy and standardization.* Validity studies should be carried out under conditions which assure insofar as possible the adequacy and accuracy of the research and the report. Selection procedures should be administered and scored under standardized conditions.

F. *Caution against selection on basis of knowledges, skills, or ability learned in brief orientation period.* In general, users should avoid making employment decisions on the basis of measures of knowledges, skills, or abilities which are normally learned in a brief orientation period, and which have an adverse impact.

G. *Method of use of selection procedures.* The evidence of both the validity and utility of a selection procedure should support the method the user chooses for operational use of the procedure, if that method of use has a greater adverse impact than another method of use. Evidence which may be sufficient to support the use of a selection procedure on a pass/fail (screening) basis may be insufficient to support the use of the same procedure on a ranking basis under these guidelines. Thus, if a user decides to use a selection procedure on a ranking basis, and that method of use has a greater adverse impact than use on an appropriate pass/fail basis (see section 5H below), the user should have sufficient evidence of validity and utility to support the use on a ranking basis. See sections 3B, 14B (5) and (6), and 14C (8) and (9).

H. *Cutoff scores.* Where cutoff scores are used, they should normally be set so as to be reasonable and consistent with normal expectations of acceptable proficiency within the work force. Where applicants are ranked on the basis of properly validated selection procedures and those applicants scoring below a higher cutoff score than appropriate in light of such expectations have little or no chance of being selected for employment, the higher cutoff score may be appropriate, but the degree of adverse impact should be considered.

I. *Use of selection procedures for higher level jobs.* If job progression structures are so established that employees will probably, within a reasonable period of time and in a majority of cases, progress to a higher level, it may be considered that the applicants are being evaluated for a job or jobs at the higher level. However, where job progression is not so nearly automatic, or the time span is such that higher level jobs or employees' potential may be expected to change in significant ways, it should be considered that applicants are being evaluated for a job at or near the entry level. A "reasonable period of time" will vary for different jobs and employment situations but will seldom be more than 5 years. Use of selection procedures to evaluate applicants for a higher level job would not be appropriate:

(1) If the majority of those remaining employed do not progress to the higher level job;

(2) If there is a reason to doubt that the higher level job will continue to require essentially similar skills during the progression period; or

(3) If the selection procedures measure knowledges, skills, or abilities required for advancement which would be expected to develop principally from the training or experience on the job.

J. *Interim use of selection procedures.* Users may continue the use of a selection procedure which is not at the moment fully supported by the required evidence of validity, provided: (1) The user has available substantial evidence of validity, and (2) the user has in progress, when technically feasible, a study which is designed to produce the additional evidence required by these guidelines within a reasonable time. If such a study is not technically feasible, see section 6B. If the study does not demonstrate validity, this provision of these guidelines for interim use shall not constitute a defense in any action, nor shall it relieve the user of any obligations arising under Federal law.

K. *Review of validity studies for currency.* Whenever validity has been shown in accord with these guidelines for the use of a particular selection procedure for a job or group of jobs, additional studies need not be performed until such time as the validity study is subject to review as provided in section 3B above. There are no absolutes in the area of determining the currency of a validity study. All circumstances concerning the study, including the validation strategy used, and changes in the relevant labor market and the job should be considered in the determination of when a validity study is outdated.

SEC. 6. *Use of selection procedures which have not been validated.*—A. *Use of alternate selection procedures to eliminate adverse impact.* A user may choose to utilize alternative selection procedures in order to eliminate adverse impact or as part of an affirmative action program. See section 13 below. Such alternative procedures should eliminate the adverse impact in the total selection process, should be lawful and should be as job related as possible.

B. *Where validity studies cannot or need not be performed.* There are circumstances in which a user cannot or need not utilize the validation techniques contemplated by these guidelines. In such circumstances, the user should utilize selection procedures which are as job related as possible and which will minimize or eliminate adverse impact, as set forth below.

(1) *Where informal or unscored procedures are used.* When an informal or unscored selection procedure which has an adverse impact is utilized, the user should eliminate the adverse impact, or modify the procedure to one which is a formal, scored or quantified measure or combination of measures and then validate the procedure in accord with these guidelines, or otherwise justify continued use of the procedure in accord with Federal law.

(2) *Where formal and scored procedures are used.* When a formal and scored selection procedure is used which has an adverse impact, the validation techniques contemplated by these guidelines usually should be followed if technically feasible. Where the user cannot or need not follow the validation techniques anticipated by these guidelines, the user should either modify the procedure to eliminate adverse impact or otherwise justify continued use of the procedure in accord with Federal law.

SEC. 7. *Use of other validity studies.*—A. *Validity studies not conducted by the user.* Users may, under certain circumstances, support the use of selection procedures by validity studies conducted by other users or conducted by test publishers or distributors and described in test manuals. While publishers of selection procedures have a professional obligation to provide evidence of validity which meets generally accepted professional standards (see section 5C above), users are cautioned that they are responsible for compliance with these guidelines. Accordingly, users seeking to obtain selection procedures from publishers and distributors should be careful to determine that, in the event the user becomes subject to the validity requirements of these guidelines, the necessary information to support validity has been determined and will be made available to the user.

B. *Use of criterion-related validity evidence from other sources.* Criterion-related validity studies conducted by one test user, or described in test manuals and the professional literature, will be considered acceptable for use by another user when the following requirements are met:

(1) *Validity evidence.* Evidence from the available studies meeting the standards of section 14B below clearly demonstrates that the selection procedure is valid;

(2) *Job similarity.* The incumbents in the user's job and the incumbents in the job or group of jobs on which the validity study was conducted perform substantially the same major work behaviors, as shown by appropriate job analyses both on the job or group of jobs on which the validity study was performed and on the job for which the selection procedure is to be used; and

(3) *Fairness evidence.* The studies include a study of test fairness for each race, sex, and ethnic group which constitutes a significant factor in the borrowing user's relevant labor market for the job or jobs in question. If the studies under consideration satisfy (1) and (2) above but do not contain an investigation of test fairness, and it is not technically feasible for the borrowing user to conduct an internal study of test fairness, the borrowing user may utilize the study until studies conducted elsewhere meeting the requirements of these guidelines show test unfairness, or until such time as it becomes technically feasible to conduct an internal study of test fairness and the results of that study can be acted upon. Users obtaining selection procedures from publishers should consider, as one factor in the decision to purchase a particular selection procedure, the availability of evidence concerning test fairness.

C. *Validity evidence from multiunit study.* If validity evidence from a study covering more than one unit within an organization satisfies the requirements of section 14B below, evidence of validity specific to each unit will not be required unless there are variables which are likely to affect validity significantly.

D. *Other significant variables.* If there are variables in the other studies which are likely to affect validity significantly, the user may not rely upon such studies, but will be expected either to conduct an internal validity study or to comply with section 6 above.

Sec. 8. *Cooperative studies.*—A. *Encouragement of cooperative studies.* The agencies issuing these guidelines encourage employers, labor organizations, and employment agencies to cooperate in research, development, search for lawful alternatives, and validity studies in order to achieve procedures which are consistent with these guidelines.

B. *Standards for use of cooperative studies.* If validity evidence from a cooperative study satisfies the requirements of section 14 below, evidence of validity specific to each user will not be required unless there are variables in the user's situation which are likely to affect validity significantly.

Sec. 9. *No assumption of validity.*—A. *Unacceptable substitutes for evidence of validity.* Under no circumstances will the general reputation of a test or other selection procedures, its author or its publisher, or casual reports of its validity be accepted in lieu of evidence of validity. Specifically ruled out are: assumptions of validity based on a procedures's name or descriptive labels; all forms of promotional literature; data bearing on the frequency of a procedure's usage; testimonial statements and credentials of sellers, users, or consultants; and other nonempirical or anecdotal accounts of selection practices or selection outcomes.

B. *Encouragement of professional supervision.* Professional supervision of selection activities is encouraged but is not a substitute for documented evidence of validity. The enforcement agencies will take into account the fact that a thorough job analysis was conducted and that careful development and use of a selection procedure in accordance with professional standards enhance the probability that the selection procedure is valid for the job.

Sec. 10. *Employment agencies and employment services.*—A. *Where selection procedures are devised by agency.* An employment agency, including private employment agencies and State employment agencies, which agrees to a request by an employer or labor organization to devise and utilize a selection procedure should follow the standards in these guidelines for determining adverse impact. If adverse impact exists the agency should comply with these guidelines. An employment agency is not relieved of its obligation herein because the user did not request such validation or has requested the use of some lesser standard of validation than is provided in these guidelines. The use of an employment agency does not relieve an employer or labor organization or other user of its responsibilities under Federal law to provide equal employment opportunity or its obligations as a user under these guidelines.

B. *Where selection procedures are devised elsewhere.* Where an employment agency or service is requested to administer a selection procedure which has been devised elsewhere and to make referrals pursuant to the results, the employment agency or service should maintain and have available evidence of the impact of the selection and referral procedures which it administers. If adverse impact results the agency or service should comply with these guidelines. If the agency or service seeks to comply with these guidelines by reliance upon validity studies or other data in the possession of the employer, it should obtain and have available such information.

Sec. 11. *Disparate treatment.* The principles of disparate or unequal treatment must be distinguished from the concepts of validation. A selection procedure—even though validated against job performance in accordance with these guidelines—cannot be imposed upon members of a race, sex, or ethnic group where other employees, applicants, or members have not been subjected to that standard. Disparate treatment occurs where members of a race, sex, or ethnic group have been denied the same employment, promotion, membership, or other employment opportunities as have been available to other employees or applicants. Those employees or applicants who have been denied equal treatment, because of prior discriminatory practices or policies, must at least be afforded the same opportunities as had existed for other employees or applicants during the period of discrimination. Thus, the persons who were in the class of persons discriminated against during the period the user followed the discriminatory practices should be allowed the opportunity to qualify under less stringent selection procedures previously followed, unless the user demonstrates that the increased standards are required by business necessity. This section does not prohibit a user who has not previously followed merit standards from adopting merit standards which are in compliance with these guidelines; nor does it preclude a user who has previously used invalid or unvalidated selection procedures from developing and using procedures which are in accord with these guidelines.

Sec. 12. *Retesting of applicants.* Users should provide a reasonable opportunity for retesting and reconsideration. Where examinations are administered periodically with public notice, such reasonable opportunity exists, unless persons who have previously been tested are precluded from retesting. The user may however take reasonable steps to preserve the security of its procedures.

Sec. 13. *Affirmative action.*—A. *Affirmative action obligations.* The use of selection procedures which have been validated pursuant to these guidelines does not relieve users of any obligations they may have to undertake affirmative action to assure equal employment opportunity. Nothing in these guidelines is intended to preclude the use of lawful selection procedures which assist in remedying the effects of prior discriminatory practices, or the achievement of affirmative action objectives.

B. *Encouragement of voluntary affirmative action programs.* These guidelines are also intended to encourage the adoption and implementation of voluntary affirmative action programs by users who have no obligation under Federal law to adopt them; but are not intended to impose any new obligations in that regard. The agencies issuing and endorsing these guidelines endorse for all private employers and reaffirm for all governmental employers the Equal Employment Opportunity Coordinating Council's "Policy Statement on Affirmative Action Programs for State and Local Government Agencies" (41 FR 38814, September 13, 1976). That policy statement is attached hereto as appendix, section 17.

TECHNICAL STANDARDS

Sec. 14. *Technical standards for validity studies.* The following minimum standards, as applicable, should be met in conducting a validity study. Nothing in these guidelines is intended to preclude the development and use of other professionally acceptable techniques with respect to validation of selection procedures. Where it is not technically feasible for a user to conduct a validity study, the user has the obligation otherwise to comply with these guidelines. See sections 6 and 7 above.

A. *Validity studies should be based on review of information about the job.* Any validity study should be based upon a review of information about the job for which the selection procedure is to be used. The review should include a job analysis except as provided in section 14B(3) below with respect to criterion-related validity. Any method of job analysis may be used if it provides the information required for the specific validation strategy used.

B. *Technical standards for criterion-related validity studies.*—(1) *Technical feasibility.* Users choosing to validate a selection procedure by a criterion-related validity strategy should determine whether it is technically feasible (as defined in section 16) to conduct such a study in the particular employment context. The determination of the number of persons necessary to permit the conduct of a meaningful criterion-related study should be made by the user on the basis of all relevant information concerning the selection procedure, the potential sample and the employment situation. Where appropriate, jobs with substantially the same major work behaviors may be grouped together for validity studies, in order to obtain an adequate sample. These guidelines do not require a user to hire or promote persons for the purpose of making it possible to conduct a criterion-related study.

(2) *Analysis of the job.* There should be a review of job information to determine measures of work behavior(s) or performance that are relevant to the job or group of jobs in question. These measures or criteria are relevant to the extent that they represent critical or important job duties, work behaviors or work outcomes as developed from the review of job information. The possibility of bias should be considered both in selection of the criterion measures and their application. In view of the possibility of bias in subjective evaluations, supervisory rating techniques and instructions to raters should be carefully developed. All criterion measures and the methods for gathering data need to be examined for freedom from factors which would unfairly alter scores of members of any group. The relevance of criteria and their freedom from bias are of particular concern when there are significant differences in measures of job performance for different groups.

(3) *Criterion measures.* Proper safeguards should be taken to insure that scores on selection procedures do not enter into any judgments of employee adequacy that are to be used as criterion measures. Whatever criteria are used should represent important or critical work behavior(s) or work outcomes. Certain criteria may be used without a full job analysis if the user can show the importance of the criteria to the particular employment context. These criteria include but are not limited to production rate, error rate, tardiness, absenteeism, and length of service. A standardized rating of overall work performance may be used where a study of the job shows that it is an appropriate criterion. Where performance in training is used as a criterion, success in training should be properly measured and the relevance of the training should be shown either through a comparison of the content of the training program with the critical or important work behavior(s) of the job(s), or through a demonstration of the relationship between measures of performance in training and measures of job performance. Measures of relative success in training include but are not limited to instructor evaluations, performance samples, or tests. Criterion measures consisting of paper and pencil tests will be closely reviewed for job relevance.

(4) *Representativeness of the sample.* Whether the study is predictive or concurrent, the sample subjects should insofar as feasible be representative of the candidates normally available in the relevant labor market for the job or group of jobs in question, and should insofar as feasible include the races, sexes, and ethnic groups normally available in the relevant job market. In determining the representativeness of the sample in a concurrent validity study, the user should take into account the extent to which the specific knowledges or skills which are the primary focus of the test are those which employees learn on the job.

Where samples are combined or compared, attention should be given to see that such samples are comparable in terms of the actual job they perform, the length of time on the job where time on the job is likely to affect performance, and other revelant factors likely to affect validity differences; or that these factors are included in the design of the study and their effects identified.

(5) *Statistical relationships.* The degree of relationship between selection procedure scores and criterion measures should be examined and computed, using professionally acceptable statistical procedures. Generally, a selection procedure is considered related to the criterion, for the purposes of these guidelines, when the relationship between performance on the procedure and performance on the criterion measure is statistically significant at the 0.05 level of significance, which means that it is sufficiently high as to have a probability of no more than one (1) in twenty (20) to have occurred by chance. Absence of a statistically significant relationship between a selection procedure and job performance should not necessarily discourage other investigations of the validity of that selection procedure.

(6) *Operational use of selection procedures.* Users should evaluate each selection procedure to assure that it is appropriate for operational use, including establishment of cutoff scores or rank ordering. Generally, if other factors remain the same, the greater the magnitude of the relationship (e.g., correlation coefficient) between performance on a selection procedure and one or more criteria of performance on the job, and the greater the importance and number of aspects of job performance covered by the criteria, the more likely it is that the procedure will be appropriate for use. Reliance upon a selection procedure which is significantly related to a criterion measure, but which is based upon a study involving a large number of subjects and has a low correlation coefficient will be subject to close review if it has a large adverse impact. Sole reliance upon a single selection instrument which is related to only one of many job duties or aspects of job performance will also be subject to close review. The appropriateness of a selection procedure is best evaluated in each particular situation and there are no minimum correlation coefficients applicable to all employment situations. In determining whether a selection procedure is appropriate for operational use the following considerations should also be taken into account: The degree of adverse impact of the procedure, the availability of other selection procedures of greater or substantially equal validity.

(7) *Overstatement of validity findings.* Users should avoid reliance upon techniques which tend to overestimate validity findings as a result of capitalization on chance unless an appropriate safeguard is taken. Reliance upon a few selection procedures or criteria of successsful job performance when many selection procedures or criteria of performance have been studied, or the use of optimal statistical weights for selection procedures computed in one sample, are techniques which tend to inflate validity estimates as a result of chance. Use of a large sample is one safeguard: cross-validation in another.

(8) *Fairness.* This section generally calls for studies of unfairness where technically feasible. The concept of fairness or unfairness of selection procedures is a developing concept. In addition, fairness studies generally require substantial numbers of employees in the job or group of jobs being studied. For these reasons, the Federal enforcement agencies recognize that the obligation to conduct studies of fairness imposed by the guidelines generally will be upon users or groups of users with a large number of persons in a job class, or test developers; and that small users utilizing their own selection procedures will generally not be obligated to conduct such studies because it will be technically infeasible for them to do so.

(a) *Unfairness defined.* When members of one race, sex, or ethnic group characteristically obtain lower scores on a selection procedure than members of another group, and the differences in scores are not reflected in differences in a measure of job performance, use of the selection procedure may unfairly deny opportunities to members of the group that obtains the lower scores.

(b) *Investigation of fairness.* Where a selection procedure results in an adverse impact on a race, sex, or ethnic group identified in accordance with the classifications set forth in section 4 above and that group is a significant factor in the relevant labor market, the user generally should investigate the possible existence of unfairness for that group if it is technically feasible to do so. The greater the severity of the adverse impact on a group, the greater the need to investigate the possible existence of unfairness. Where the weight of evidence from other studies shows that the selection procedure predicts fairly for the group in question and for the same or similar jobs, such evidence may be relied on in connection with the selection procedure at issue.

(c) *General considerations in fairness investigations.* Users conducting a study of fairness should review the A.P.A. Standards regarding investigation of possible bias in testing. An investigation of fairness of a selection procedure depends on both evidence of validity and the manner in which the selection procedure is to be used in a particular employment context. Fairness of a selection procedure cannot necessarily be specified in advance without investigating these factors. Investigation of fairness of a selection procedure in samples where the range of scores on selection procedures or criterion measures is severely restricted for any subgroup sample (as compared to other subgroup samples) may produce misleading evidence of unfairness. That factor should accordingly be taken into account in conducting such studies and before reliance is placed on the results.

(d) *When unfairness is shown.* If unfairness is demonstrated through a showing that members of a particular group perform better or poorer on the job than their scores on the selection procedure would indicate through comparison with how members of other groups perform, the user may either revise or replace the selection instrument in accordance with these guidelines, or may continue to use the selection instrument operationally with appropriate revisions in its use to assure compatibility between the probability of successful job performance and the probability of being selected.

(e) *Technical feasibility of fairness studies.* In addition to the general conditions needed for technical feasibility for the conduct of a criterion-related study (see section 16, below) an investigation of fairness requires the following:

(i) An adequate sample of persons in each group available for the study to achieve findings of statistical significance. Guidelines do not require a user to hire or promote persons on the basis of group classifications for the purpose of making it possible to conduct a study of fairness; but the user has the obligation otherwise to comply with these guidelines.

(ii) The samples for each group should be comparable in terms of the actual job they perform, length of time on the job where time on the job is likely to affect performance, and other relevant factors likely to affect validity differences; or such factors should be included in the design of the study and their effects identified.

(f) *Continued use of selection procedures when fairness studies not feasible.* If a study of fairness should otherwise be performed, but is not technically feasible, a selection procedure may be used which has otherwise met the validity standards of these guidelines, unless the technical infeasibility resulted from discriminatory employment practices which are demonstrated by facts other than past failure to conform with requirements for validation of selection procedures. However, when it becomes technically feasible for the user to perform a study of fairness and such a study is otherwise called for, the user should conduct the study of fairness.

C. *Technical standards for content validity studies.*—(1) *Appropriateness of content validity studies.* Users choosing to validate a selection procedure by a content validity strategy should determine whether it is appropriate to conduct such a study in the particular employment context. A selection procedure can be supported by a content validity strategy to the extent that it is a representative sample of the content of the job. Selection procedures which purport to measure knowledges, skills, or abilities may in certain circumstances be justified by content validity, although they may not be representative samples, if the knowledge, skill, or ability measured by the selection procedure can be operationally defined as provided in section 14C(4) below, and if that knowledge, skill, or ability is a necessary prerequisite to successful job performance.

A selection procedure based upon inferences about mental processes cannot be supported solely or primarily on the basis of content validity. Thus, a content strategy is not appropriate for demonstrating the validity of selection procedures which purport to measure traits or constructs, such as intelligence, aptitude, personality, commonsense, judgment, leadership, and spatial ability. Content validity is also not an appropriate strategy when the selection procedure involves knowledges, skills, or abilities which an employee will be expected to learn on the job.

(2) *Job analysis for content validity.* There should be a job analysis which includes an analysis of the important work behavior(s) required for successful performance and their relative importance and, if the behavior results in work product(s), an analysis of the work product(s). Any job analysis should focus on the work behavior(s) and the tasks associated with them. If work behavior(s) are not observable, the job analysis should identify and analyze those aspects of the behavior(s) that can be observed and the observed work products. The work behavior(s) selected for measurement should be critical work behavior(s) and/or important work behavior(s) constituting most of the job.

(3) *Development of selection procedures.* A selection procedure designed to measure the work behavior may be developed specifically from the job and job analysis in question, or may have been previously developed by the user, or by other users or by a test publisher.

(4) *Standards for demonstrating content validity.* To demonstrate the content validity of a selection procedure, a user should show that the behavior(s) demonstrated in the selection procedure are a representative sample of the behavior(s) of the job in question or that the selection procedure provides a representative sample of the work product of the job. In the case of a selection procedure measuring a knowledge, skill, or ability, the knowledge, skill, or ability being measured should be operationally defined. In the case of a selection procedure measuring a knowledge, the knowledge being measured should be operationally defined as that body of learned information which is used in and is a necessary prerequisite for observable aspects of work behavior of the job. In the case of skills or abilities, the skill or ability being measured should be operationally defined in terms of observable aspects of work behavior of the job. For any selection procedure measuring a knowledge, skill, or ability the user should show that (a) the selection procedure measures and is a representative sample of that knowledge, skill, or ability; and (b) that knowledge, skill, or ability is used in and is a necessary prerequisite to performance of critical or important work behavior(s). In addition, to be content valid, a selection procedure measuring a skill or ability should either closely approximate an observable work be-

havior, or its product should closely approximate an observable work product. If a test purports to sample a work behavior or to provide a sample of a work product, the manner and setting of the selection procedure and its level and complexity should closely approximate the work situation. The closer the content and the context of the selection procedure are to work samples or work behaviors, the stronger is the basis for showing content validity. As the content of the selection procedure less resembles a work behavior, or the setting and manner of the administration of the selection procedure less resemble the work situation, or the result less resembles a work product, the less likely the selection procedure is to be content valid, and the greater the need for other evidence of validity.

(5) *Reliability.* The reliability of selection procedures justified on the basis of content validity should be a matter of concern to the user. Whenever it is feasible, appropriate statistical estimates should be made of the reliability of the selection procedure.

(6) *Prior training or experience.* A requirement for or evaluation of specific prior training or experience based on content validity, including a specification of level or amount of training or experience, should be justified on the basis of the relationship between the content of the training or experience and the content of the job for which the training or experience is to be required or evaluated. The critical consideration is the resemblance between the specific behaviors, products, knowledges, skills, or abilities in the experience or training and the specific behaviors, products, knowledges, skills, or abilities required on the job, whether or not there is close resemblance between the experience or training as a whole and the job as a whole.

(7) *Content validity of training success.* Where a measure of success in a training program is used as a selection procedure and the content of a training program is justified on the basis of content validity, the use should be justified on the relationship between the content of the training program and the content of the job.

(8) *Operational use.* A selection procedure which is supported on the basis of content validity may be used for a job if it represents a critical work behavior (i.e., a behavior which is necessary for performance of the job) or work behaviors which constitute most of the important parts of the job.

(9) *Ranking based on content validity studies.* If a user can show, by a job analysis or otherwise, that a higher score on a content valid selection procedure is likely to result in better job performance, the results may be used to rank persons who score above minimum levels. Where a selection procedure supported solely or primarily by content validity is used to rank job candidates, the selection procedure should measure those aspects of performance which differentiate among levels of job performance.

D. *Technical standards for construct validity studies.*—(1) *Appropriateness of construct validity studies.* Construct validity is a more complex strategy than either criterion-related or content validity. Construct validation is a relatively new and developing procedure in the employment field, and there is at present a lack of substantial literature extending the concept to employment practices. The user should be aware that the effort to obtain sufficient empirical support for construct validity is both an extensive and arduous effort involving a series of research studies, which include criterion-related validity studies and which may include content validity studies. Users choosing to justify use of a selection procedure by this strategy should therefore take particular care to assure that the validity study meets the standards set forth below.

(2) *Job analysis for construct validity studies.* There should be a job analysis. This job analysis should show the work behavior(s) required for successful performance of the job, or the groups of jobs being studied, the critical or important work behavior(s) in the job or group of jobs being studied, and an identification of the construct(s) believed to underlie successful performance of these critical or important work behaviors in the job or jobs in question. Each construct should be named and defined, so as to distinguish it from other constructs. If a group of jobs is being studied the jobs should have in common one or more critical or important work behaviors at a comparable level of complexity.

(3) *Relationship to the job.* A selection procedure should then be identified or developed which measures the construct identified in accord with subparagraph (2) above. The user should show by empirical evidence that the selection procedure is validly related to the construct and that the construct is validly related to the performance of critical or important work behavior(s). The relationship between the construct as measured by the selection procedure and the related work behavior(s) should be supported by empirical evidence from one or more criterion-related studies involving the job or jobs in question which satisfy the provisions of section 14B above.

(4) *Use of construct validity study without new criterion-related evidence.*—(a) *Standards for use.* Until such time as professional literature provides more guidance on the use of construct validity in employment situations, the Federal agencies will accept a claim of construct validity without a criterion-related study which satisfies section 14B above only when the selection procedure has been used elsewhere in a situation in which a criterion-related study has been conducted and the use of a criterion-related validity study in this context meets the standards for transportability of criterion-related validity studies as set forth above in section 7. However, if a study pertains to a number of jobs having common critical or important work behaviors at a comparable level of complexity, and the evidence satisfies subparagraphs 14B (2) and (3) above for those jobs with criterion-related validity evidence for those jobs, the selection procedure may be used for all the jobs to which the study pertains. If construct validity is to be generalized to other jobs or groups of jobs not in the group studied, the Federal enforcement agencies will expect at a minimum additional empirical research evidence meeting the standards of subparagraphs section 14B (2) and (3) above for the additional jobs or groups of jobs.

(b) *Determination of common work behaviors.* In determining whether two or more jobs have one or more work behavior(s) in common, the user should compare the observed work behavior(s) in each of the jobs and should compare the observed work product(s) in each of the jobs. If neither the observed work behavior(s) in each of the jobs nor the observed work product(s) in each of the jobs are the same, the Federal enforcement agencies will presume that the work behavior(s) in each job are different. If the work behaviors are not observable, then evidence of similarity of work products and any other relevant research evidence will be considered in determining whether the work behavior(s) in the two jobs are the same.

DOCUMENTATION OF IMPACT AND VALIDITY EVIDENCE

SEC. 15. *Documentation of impact and validity evidence.*—A. *Required information.* Users of selection procedures other than those users complying with section 15A(1) below should maintain and have available for each job information on adverse impact of the selection process for that job and, where it is determined a selection process has an adverse impact, evidence of validity as set forth below.

(1) *Simplified recordkeeping for users with less than 100 employees.* In order to minimize recordkeeping burdens on employers who employ one hundred (100) or fewer employees, and other users not required to file EEO-1, et seq., reports, such users may satisfy

the requirements of this section 15 if they maintain and have available records showing, for each year:

(a) The number of persons hired, promoted, and terminated for each job, by sex, and where appropriate by race and national origin;

(b) The number of applicants for hire and promotion by sex and where appropriate by race and national origin; and

(c) The selection procedures utilized (either standardized or not standardized).

These records should be maintained for each race or national origin group (see section 4 above) constituting more than two percent (2%) of the labor force in the relevant labor area. However, it is not necessary to maintain records by race and/or national origin (see § 4 above) if one race or national origin group in the relevant labor area constitutes more than ninety-eight percent (98%) of the labor force in the area. If the user has reason to believe that a selection procedure has an adverse impact, the user should maintain any available evidence of validity for that procedure (see sections 7A and 8).

(2) *Information on impact.*—(a) *Collection of information on impact.* Users of selection procedures other than those complying with section 15A(1) above should maintain and have available for each job records or other information showing whether the total selection process for that job has an adverse impact on any of the groups for which records are called for by section 4B above. Adverse impact determinations should be made at least annually for each such group which constitutes at least 2 percent of the labor force in the relevant labor area or 2 percent of the applicable workforce. Where a total selection process for a job has an adverse impact, the user should maintain and have available records or other information showing which components have an adverse impact. Where the total selection process for a job does not have an adverse impact, information need not be maintained for individual components except in circumstances set forth in subsection 15A(2)(b) below. If the determination of adverse impact is made using a procedure other than the "four-fifths rule," as defined in the first sentence of section 4D above, a justification, consistent with section 4D above, for the procedure used to determine adverse impact should be available.

(b) *When adverse impact has been eliminated in the total selection process.* Whenever the total selection process for a particular job has had an adverse impact, as defined in section 4 above, in any year, but no longer has an adverse impact, the user should maintain and have available the information on individual components of the selection process required in the preceding paragraph for the period in which there was adverse impact. In addition, the user should continue to collect such information for at least two (2) years after the adverse impact has been eliminated.

(c) *When data insufficient to determine impact.* Where there has been an insufficient number of selections to determine whether there is an adverse impact of the total selection process for a particular job, the user should continue to collect, maintain and have available the information on individual components of the selection process required in section 15(A)(2)(a) above until the information is sufficient to determine that the overall selection process does not have an adverse impact as defined in section 4 above, or until the job has changed substantially.

(3) *Documentation of validity evidence.*—(a) *Types of evidence.* Where a total selection process has an adverse impact (see section 4 above) the user should maintain and have available for each component of that process which has an adverse impact, one or more of the following types of documentation evidence:

(i) Documentation evidence showing criterion-related validity of the selection procedure (see section 15B, below).

(ii) Documentation evidence showing content validity of the selection procedure (see section 15C, below).

(iii) Documentation evidence showing construct validity of the selection procedure (see section 15D, below).

(iv) Documentation evidence from other studies showing validity of the selection procedure in the user's facility (see section 15E, below).

(v) Documentation evidence showing why a validity study cannot or need not be performed and why continued use of the procedure is consistent with Federal law.

(b) *Form of report.* This evidence should be compiled in a reasonably complete and organized manner to permit direct evaluation of the validity of the selection procedure. Previously written employer or consultant reports of validity, or reports describing validity studies completed before the issuance of these guidelines are acceptable if they are complete in regard to the documentation requirements contained in this section, or if they satisfied requirements of guidelines which were in effect when the validity study was completed. If they are not complete, the required additional documentation should be appended. If necessary information is not available the report of the validity study may still be used as documentation, but its adequacy will be evaluated in terms of compliance with the requirements of these guidelines.

(c) *Completeness.* In the event that evidence of validity is reviewed by an enforcement agency, the validation reports completed after the effective date of these guidelines are expected to contain the information set forth below. Evidence denoted by use of the word "(Essential)" is considered critical. If information denoted essential is not included, the report will be considered incomplete unless the user affirmatively demonstrates either its unavailability due to circumstances beyond the user's control or special circumstances of the user's study which make the information irrelevant. Evidence not so denoted is desirable but its absence will not be a basis for considering a report incomplete. The user should maintain and have available the information called for under the heading "Source Data" in sections 15B(11) and 15D(11). While it is a necessary part of the study, it need not be submitted with the report. All statistical results should be organized and presented in tabular or graphic form to the extent feasible.

B. *Criterion-related validity studies.* Reports of criterion-related validity for a selection procedure should include the following information:

(1) *User(s), location(s), and date(s) of study.* Dates and location(s) of the job analysis or review of job information, the date(s) and location(s) of the administration of the selection procedures and collection of criterion data, and the time between collection of data on selection procedures and criterion measures should be provided (Essential). If the study was conducted at several locations, the address of each location, including city and State, should be shown.

(2) *Problem and setting.* An explicit definition of the purpose(s) of the study and the circumstances in which the study was conducted should be provided. A description of existing selection procedures and cutoff scores, if any, should be provided.

(3) *Job analysis or review of job information.* A description of the procedure used to analyze the job or group of jobs, or to review the job information should be provided (Essential). Where a review of job information results in criteria which may be used without a full job analysis (see section 14B(3)), the basis for the selection of these criteria should be reported (Essential). Where a job analysis is required a complete description of the work behavior(s) or work outcomes(s), and measures of their criticality or importance should be provided (Essential). The report should describe the basis on which the behavior(s) or outcome(s) were determined to be critical or important, such as the propor-

tion of time spent on the respective behaviors, their level of difficulty, their frequency of performance, the consequences of error, or other appropriate factors (Essential). Where two or more jobs are grouped for a validity study, the information called for in this subsection should be provided for each of the jobs, and the justification for the grouping (see section 14B(1)) should be provided (Essential).

(4) *Job titles and codes.* It is desirable to provide the user's job title(s) for the job(s) in question and the corresponding job title(s) and code(s) from U.S. Employment Service's Dictionary of Occupational titles.

(5) *Criterion measures.* The bases for the selection of the criterion measures should be provided, together with references to the evidence considered in making the selection of criterion measures (essential). A full description of all criteria on which data were collected and means by which they were observed, recorded, evaluated, and quantified, should be provided (essential). If rating techniques are used as criterion measures, the appraisal form(s) and instructions to the rater(s) should be included as part of the validation evidence, or should be explicitly described and available (essential). All steps taken to insure that criterion measures are free from factors which would unfairly alter the scores of members of any group should be described (essential).

(6) *Sample description.* A description of how the research sample was identified and selected should be included (essential). The race, sex, and ethnic composition of the sample, including those groups set forth in section 4A above, should be described (essential). This description should include the size of each subgroup (essential). A description of how the research sample compares with the relevant labor market or work force, the method by which the relevant labor market or work force was defined, and a discussion of the likely effects on validity of differences between the sample and the relevant labor market or work force, are also desirable. Descriptions of educational levels, length of service, and age are also desirable.

(7) *Description of selection procedures.* Any measure, combination of measures, or procedure studied should be completely and explicitly described or attached (essential). If commercially available selection procedures are studied, they should be described by title, form, and publisher (essential). Reports of reliability estimates and how they were established are desirable.

(8) *Techniques and results.* Methods used in analyzing data should be described (essential). Measures of central tendency (e.g., means) and measures of dispersion (e.g., standard deviations and ranges) for all selection procedures and all criteria should be reported for each race, sex, and ethnic group which constitutes a significant factor in the relevant labor market (essential). The magnitude and direction of all relationships between selection procedures and criterion measures investigated should be reported for each relevant race, sex, and ethnic group and for the total group (essential). Where groups are too small to obtain reliable evidence of the magnitude of the relationship, need not be reported separately. Statements regarding the statistical significance of results should be made (essential). Any statistical adjustments, such as for less then perfect reliability or for restriction of score range in the selection procedure or criterion should be described and explained; and uncorrected correlation coefficients should also be shown (essential). Where the statistical technique categorizes continuous data, such as biserial correlation and the phi coefficient, the categories and the bases on which they were determined should be described and explained (essential). Studies of test fairness should be included where called for by the requirements of section 14B(8) (essential). These studies should include the rationale by which a selection procedure was determined to be fair to the group(s) in question. Where test fairness or unfairness has been demonstrated on the basis of other studies, a bibliography of the relevant studies should be included (essential). If the bibliography includes unpublished studies, copies of these studies, or adequate abstracts or summaries, should be attached (essential). Where revisions have been made in a selection procedure to assure compatability between successful job performance and the probability of being selected, the studies underlying such revisions should be included (essential). All statistical results should be organized and presented by relevant race, sex, and ethnic group (essential).

(9) *Alternative procedures investigated.* The selection procedures investigated and available evidence of their impact should be identified (essential). The scope, method, and findings of the investigation, and the conclusions reached in light of the findings, should be fully described (essential).

(10) *Uses and applications.* The methods considered for use of the selection procedure (e.g., as a screening device with a cutoff score, for grouping or ranking, or combined with other procedures in a battery) and available evidence of their impact should be described (essential). This description should include the rationale for choosing the method for operational use, and the evidence of the validity and utility of the procedure as it is to be used (essential). The purpose for which the procedure is to be used (e.g., hiring, transfer, promotion) should be described (essential). If weights are assigned to different parts of the selection procedure, these weights and the validity of the weighted composite should be reported (essential). If the selection procedure is used with a cutoff score, the user should describe the way in which normal expectations of proficiency within the work force were determined and the way in which the cutoff score was determined (essential).

(11) *Source data.* Each user should maintain records showing all pertinent information about individual sample members and raters where they are used, in studies involving the validation of selection procedures. These records should be made available upon request of a compliance agency. In the case of individual sample members these data should include scores on the selection procedure(s), scores on criterion measures, age, sex, race, or ethnic group status, and experience on the specific job on which the validation study was conducted, and may also include such things as education, training, and prior job experience, but should not include names and social security numbers. Records should be maintained which show the ratings given to each sample member by each rater.

(12) *Contact person.* The name, mailing address, and telephone number of the person who may be contacted for further information about the validity study should be provided (essential).

(13) *Accuracy and completeness.* The report should describe the steps taken to asssure the accuracy and completeness of the collection, analysis, and report of data and results.

C. *Content validity studies.* Reports of content validity for a selection procedure should include the following information:

(1) *User(s), location(s) and date(s) of study.* Dates and location(s) of the job analysis should be shown (essential).

(2) *Problem and setting.* An explicit definition of the purpose(s) of the study and the circumstances in which the study was conducted should be provided. A description of existing selection procedures and cutoff scores, if any, should be provided.

(3) *Job analysis—Content of the job.* A description of the method used to analyze the job should be provided (essential). The work behavior(s), the associated tasks, and, if the behavior results in a work product, the work products should be completely described (essential). Measures of criticality and/or importance of the work behavior(s) and the method of determining these measures should be pro-

vided (essential). Where the job analysis also identified the knowledges, skills, and abilities used in work behavior(s), an operational definition for each knowledge in terms of a body of learned information and for each skill and ability in terms of observable behaviors and outcomes, and the relationship between each knowledge, skill, or ability and each work behavior, as well as the method used to determine this relationship, should be provided (essential). The work situation should be described, including the setting in which work behavior(s) are performed, and where appropriate, the manner in which knowledges, skills, or abilities are used, and the complexity and difficulty of the knowledge, skill, or ability as used in the work behavior(s).

(4) *Selection procedure and its content.* Selection procedures, including those constructed by or for the user, specific training requirements, composites of selection procedures, and any other procedure supported by content validity, should be completely and explicitly described or attached (essential). If commercially available selection procedures are used, they should be described by title, form, and publisher (essential). The behaviors measured or sampled by the selection procedure should be explicitly described (essential). Where the selection procedure purports to measure a knowledge, skill, or ability, evidence that the selection procedure measures and is a representative sample of the knowledge, skill, or ability should be provided (essential).

(5) *Relationship between the selection procedure and the job.* The evidence demonstrating that the selection procedure is a representative work sample, a representative sample of the work behavior(s), or a representative sample of a knowledge, skill, or ability as used as a part of a work behavior and necessary for that behavior should be provided (essential). The user should identify the work behavior(s) which each item or part of the selection procedure is intended to sample or measure (essential). Where the selection procedure purports to sample a work behavior or to provide a sample of a work product, a comparison should be provided of the manner, setting, and the level of complexity of the selection procedure with those of the work situation (essential). If any steps were taken to reduce adverse impact on a race, sex, or ethnic group in the content of the procedure or in its administration, these steps should be described. Establishment of time limits, if any, and how these limits are related to the speed with which duties must be performed on the job, should be explained. Measures of central tendency (e.g., means) and measures of dispersion (e.g, standard deviations) and estimates of reliability should be reported for all selection procedures if available. Such reports should be made for relevant race, sex, and ethnic subgroups, at least on a statistically reliable sample basis.

(6) *Alternative procedures investigated.* The alternative selection procedures investigated and availabe evidence of their impact should be identified (essential). The scope, method, and findings of the investigation, and the conclusions reached in light of the findings, should be fully described (essential).

(7) *Uses and applications.* The methods considered for use of the selection procedure (e.g., as a screening device with a cutoff score, for grouping or ranking, or combined with other procedures in a battery) and available evidence of their impact should be described (essential). This description should include the rationale for choosing the method for operational use, and the evidence of the validity and utility of the procedure as it is to be used (essential). The purpose for which the procedure is to be used (e.g., hiring, transfer, promotion) should be described (essential). If the selection procedure is used with a cutoff score, the user should describe the way in which normal expectations of proficiency within the work force were determined and the way in which the cutoff score was determined (essential). In addition, if the selection procedure is to be used for ranking, the user should specify the evidence showing that a higher score on the selection procedure is likely to result in better job performance.

(8) *Contact person.* The name, mailing address, and telephone number of the person who may be contacted for further information about the validity study should be provided (essential).

(9) *Accuracy and completeness.* The report should describe the steps taken to assure the accuracy and completeness of the collection, analysis, and report of data and results.

D. *Construct validity studies.* Reports of construct validity for a selection procedure should include the following information:

(1) *User(s), location(s), and date(s) of study.* Date(s) and location(s) of the job analysis and the gathering of other evidence called for by these guidelines should be provided (essential).

(2) *Problem and setting.* An explicit definition of the purpose(s) of the study and the circumstances in which the study was conducted should be provided. A description of existing selection procedures and cutoff scores, if any, should be provided.

(3) *Construct definition.* A clear definition of the construct(s) which are believed to underlie successful performance of the critical or important work behavior(s) should be provided (essential). This definition should include the levels of construct performance relevant to the job(s) for which the selection procedure is to be used (essential). There should be a summary of the position of the construct in the psychological literature, or in the absence of such a position, a description of the way in which the definition and measurement of the construct was developed and the psychological theory underlying it (essential). Any quantitative data which identify or define the job constructs, such as factor analyses, should be provided (essential).

(4) *Job analysis.* A description of the method used to analyze the job should be provided (essential). A complete description of the work behavior(s) and, to the extent appropriate, work outcomes and measures of their criticality and/or importance should be provided (essential). The report should also describe the basis on which the behavior(s) or outcomes were determined to be important, such as their level of difficulty, their frequency of performance, the consequences of error or other appropriate factors (essential). Where jobs are grouped or compared for the purposes of generalizing validity evidence, the work behavior(s) and work product(s) for each of the jobs should be described, and conclusions concerning the similarity of the jobs in terms of observable work behaviors or work products should be made (essential).

(5) *Job titles and codes.* It is desirable to provide the selection procedure user's job title(s) for the job(s) in question and the corresponding job title(s) and code(s) from the United States Employment Service's dictionary of occupational titles.

(6) *Selection procedure.* The selection procedure used as a measure of the construct should be completely and explicitly described or attached (essential). If commercially available selection procedures are used, they should be identified by title, form and publisher (essential). The research evidence of the relationship between the selection procedure and the construct, such as factor structure, should be included (essential). Measures of central tendency, variability and reliability of the selection procedure should be provided (essential). Whenever feasible, these measures should be provided separately for each relevant race, sex and ethnic group.

(7) *Relationship to job performance.* The criterion-related study(ies) and other empirical evidence of the relationship between the construct measured by the selection procedure and the related work behavior(s) for the

job or jobs in question should be provided (essential). Documentation of the criterion-related study(ies) should satisfy the provisions of section 15B above or section 15E(1) below, except for studies conducted prior to the effective date of these guidelines (essential). Where a study pertains to a group of jobs, and, on the basis of the study, validity is asserted for a job in the group, the observed work behaviors and the observed work products for each of the jobs should be described (essential). Any other evidence used in determining whether the work behavior(s) in each of the jobs is the same should be fully described (essential).

(8) *Alternative procedures investigated.* The alternative selection procedures investigated and available evidence of their impact should be identified (essential). The scope, method, and findings of the investigation, and the conclusions reached in light of the findings should be fully described (essential).

(9) *Uses and applications.* The methods considered for use of the selection procedure (e.g., as a screening device with a cutoff score, for grouping or ranking, or combined with other procedures in a battery) and available evidence of their impact should be described (essential). This description should include the rationale for choosing the method for operational use, and the evidence of the validity and utility of the procedure as it is to be used (essential). The purpose for which the procedure is to be used (e.g., hiring, transfer, promotion) should be described (essential). If weights are assigned to different parts of the selection procedure, these weights and the validity of the weighted composite should be reported (essential). If the selection procedure is used with a cutoff score, the user should describe the way in which normal expectations of proficiency within the work force were determined and the way in which the cutoff score was determined (essential).

(10) *Accuracy and completeness.* The report should describe the steps taken to assure the accuracy and completeness of the collection, analysis, and report of data and results.

(11) *Source data.* Each user should maintain records showing all pertinent information relating to its study of construct validity.

(12) *Contact person.* The name, mailing address, and telephone number of the individual who may be contacted for further information about the validity study should be provided (essential).

E. *Evidence of validity from other studies.* When validity of a selection procedure is supported by studies not done by the user, the evidence from the original study or studies should be compiled in a manner similar to that required in the appropriate section of this section 15 above. In addition, the following evidence should be supplied:

(1) *Evidence from criterion-related validity studies.*—a. *Job information.* A description of the important job behavior(s) of the user's job and the basis on which the behaviors were determined to be important should be provided (essential). A full description of the basis for determining that these important work behaviors are the same as those of the job in the original study (or studies) should be provided (essential).

b. *Relevance of criteria.* A full description of the basis on which the criteria used in the original studies are determined to be relevant for the user should be provided (essential).

c. *Other variables.* The similarity of important applicant pool or sample characteristics reported in the original studies to those of the user should be described (essential). A description of the comparison between the race, sex and ethnic composition of the user's relevant labor market and the sample in the original validity studies should be provided (essential).

d. *Use of the selection procedure.* A full description should be provided showing that the use to be made of the selection procedure is consistent with the findings of the original validity studies (essential).

e. *Bibliography.* A bibliography of reports of validity of the selection procedure for the job or jobs in question should be provided (essential). Where any of the studies included an investigation of test fairness, the results of this investigation should be provided (essential). Copies of reports published in journals that are not commonly available should be described in detail or attached (essential). Where a user is relying upon unpublished studies, a reasonable effort should be made to obtain these studies. If these unpublished studies are the sole source of validity evidence they should be described in detail or attached (essential). If these studies are not available, the name and address of the source, an adequate abstract or summary of the validity study and data, and a contact person in the source organization should be provided (essential).

(2) *Evidence from content validity studies.* See section 14C(3) and section 15C above.

(3) *Evidence from construct validity studies.* See sections 14D(2) and 15D above.

F. *Evidence of validity from cooperative studies.* Where a selection procedure has been validated through a cooperative study, evidence that the study satisfies the requirements of sections 7, 8 and 15E should be provided (essential).

G. *Selection for higher level job.* If a selection procedure is used to evaluate candidates for jobs at a higher level than those for which they will initially be employed, the validity evidence should satisfy the documentation provisions of this section 15 for the higher level job or jobs, and in addition, the user should provide: (1) a description of the job progression structure, formal or informal; (2) the data showing how many employees progress to the higher level job and the length of time needed to make this progression; and (3) an identification of any anticipated changes in the higher level job. In addition, if the test measures a knowledge, skill or ability, the user should provide evidence that the knowledge, skill or ability is required for the higher level job and the basis for the conclusion that the knowledge, skill or ability is not expected to develop from the training or experience on the job.

H. *Interim use of selection procedures.* If a selection procedure is being used on an interim basis because the procedure is not fully supported by the required evidence of validity, the user should maintain and have available (1) substantial evidence of validity for the procedure, and (2) a report showing the date on which the study to gather the additional evidence commenced, the estimated completion date of the study, and a description of the data to be collected (essential).

DEFINITIONS

SEC. 16. *Definitions.* The following definitions shall apply throughout these guidelines:

A. *Ability.* A present competence to perform an observable behavior or a behavior which results in an observable product.

B. *Adverse impact.* A substantially different rate of selection in hiring, promotion, or other employment decision which works to the disadvantage of members of a race, sex, or ethnic group. See section 4 of these guidelines.

C. *Compliance with these guidelines.* Use of a selection procedure is in compliance with these guidelines if such use has been validated in accord with these guidelines (as defined below), or if such use does not result in adverse impact on any race, sex, or ethnic group (see section 4, above), or, in unusual circumstances, if use of the procedure is otherwise justified in accord with Federal law. See section 6B, above.

D. *Content validity.* Demonstrated by data showing that the content of a selection procedure is representative of important aspects of performance on the job. See section 5B and section 14C.

E. *Construct validity.* Demonstrated by data showing that the selection procedure measures the degree to which candidates have identifiable characteristics which have been determined to be important for successful job performance. See section 5B and section 14D.

F. *Criterion-related validity.* Demonstrated by empirical data showing that the selection procedure is predictive of or significantly correlated with important elements of work behavior. See sections 5B and 14B.

G. *Employer.* Any employer subject to the provisions of the Civil Rights Act of 1964, as amended, including State or local governments and any Federal agency subject to the provisions of section 717 of the Civil Rights Act of 1964, as amended, and any Federal contractor or subcontractor or federally assisted construction contractor or subcontractor covered by Executive Order 11246, as amended.

H. *Employment agency.* Any employment agency subject to the provisions of the Civil Rights Act of 1964, as amended.

I. *Enforcement action.* For the purposes of section 4 a proceeding by a Federal enforcement agency such as a lawsuit or an administrative proceeding leading to debarment from or withholding, suspension, or termination of Federal Government contracts or the suspension or withholding of Federal Government funds; but not a finding of reasonable cause or a conciliation process or the issuance of right to sue letters under title VII or under Executive Order 11246 where such finding, conciliation, or issuance of notice of right to sue is based upon an individual complaint.

J. *Enforcement agency.* Any agency of the executive branch of the Federal Government which adopts these guidelines for purposes of the enforcement of the equal employment opportunity laws or which has responsibility for securing compliance with them.

K. *Job analysis.* A detailed statement of work behaviors and other information relevant to the job.

L. *Job description.* A general statement of job duties and responsibilities.

M. *Knowledge.* A body of information applied directly to the performance of a function.

N. *Labor organization.* Any labor organization subject to the provisions of the Civil Rights Act of 1964, as amended, and any committee subject thereto controlling apprenticeship or other training.

O. *Observable.* Able to be seen, heard, or otherwise perceived by a person other than the person performing the action.

P. *Race, sex, or ethnic group.* Any group of persons identifiable on the grounds of race, color, religion, sex, or national origin.

Q. *Selection procedure.* Any measure, combination of measures, or procedure used as a basis for any employment decision. Selection procedures include the full range of assessment techniques from traditional paper and pencil tests, performance tests, training programs, or probationary periods and physical, educational, and work experience requirements through informal or casual interviews and unscored application forms.

R. *Selection rate.* The proportion of applicants or candidates who are hired, promoted, or otherwise selected.

S. *Should.* The term "should" as used in these guidelines is intended to connote action which is necessary to achieve compliance with the guidelines, while recognizing that there are circumstances where alternative courses of action are open to users.

T. *Skill.* A present, observable competence to perform a learned psychomotor act.

U. *Technical feasibility.* The existence of conditions permitting the conduct of meaningful criterion-related validity studies. These conditions include: (1) An adequate sample of persons available for the study to achieve findings of statistical significance; (2) having or being able to obtain a sufficient range of scores on the selection procedure and job performance measures to produce validity results which can be expected to be representative of the results if the ranges normally expected were utilized; and (3) having or being able to devise unbiased, reliable and relevant measures of job performance or other criteria of employee adequacy. See section 14B(2). With respect to investigation of possible unfairness, the same considerations are applicable to each group for which the study is made. See section 14B(8).

V. *Unfairness of selection procedure.* A condition in which members of one race, sex, or ethnic group characteristically obtain lower scores on a selection procedure than members of another group, and the differences are not reflected in differences in measures of job performance. See section 14B(7).

W. *User.* Any employer, labor organization, employment agency, or licensing or certification board, to the extent it may be covered by Federal equal employment opportunity law, which uses a selection procedure as a basis for any employment decision. Whenever an employer, labor organization, or employment agency is required by law to restrict recruitment for any occupation to those applicants who have met licensing or certification requirements, the licensing or certifying authority to the extent it may be covered by Federal equal employment opportunity law will be considered the user with respect to those licensing or certification requirements. Whenever a State employment agency or service does no more than administer or monitor a procedure as permitted by Department of Labor regulations, and does so without making referrals or taking any other action on the basis of the results, the State employment agency will not be deemed to be a user.

X. *Validated in accord with these guidelines or properly validated.* A demonstration that one or more validity study or studies meeting the standards of these guidelines has been conducted, including investigation and, where appropriate, use of suitable alternative selection procedures as contemplated by section 3B, and has produced evidence of validity sufficient to warrant use of the procedure for the intended purpose under the standards of these guidelines.

Y. *Work behavior.* An activity performed to achieve the objectives of the job. Work behaviors involve observable (physical) components and unobservable (mental) components. A work behavior consists of the performance of one or more tasks. Knowledges, skills, and abilities are not behaviors, although they may be applied in work behaviors.

Appendix

17. *Policy statement of affirmative action* (see section 13B). The Equal Employment Opportunity Coordinating Council was established by act of Congress in 1972, and charged with responsibility for developing and implementing agreements and policies designed, among other things, to eliminate conflict and inconsistency among the agencies of the Federal Government responsible for administering Federal law prohibiting discrimination on grounds of race, color, sex, religion, and national origin. This statement is issued as an initial response to the requests of a number of State and local officials for clarification of the Government's policies concerning the role of affirmative action in the overall equal employment opportunity program. While the Coordinating Council's adoption of this statement expresses only the views of the signatory agencies concerning this important subject, the principles set forth below should serve as policy guidance for other Federal agencies as well.

(1) Equal employment opportunity is the law of the land. In the public sector of our society this means that all persons, regardless of race, color, religion, sex, or national origin shall have equal access to positions in the public service limited only by their ability to do the job. There is ample

evidence in all sectors of our society that such equal access frequently has been denied to members of certain groups because of their sex, racial, or ethnic characteristics. The remedy for such past and present discrimination is twofold.

On the one hand, vigorous enforcement of the laws against discrimination is essential. But equally, and perhaps even more important are affirmative, voluntary efforts on the part of public employers to assure that positions in the public service are genuinely and equally accessible to qualified persons, without regard to their sex, racial, or ethnic characteristics. Without such efforts equal employment opportunity is no more than a wish. The importance of voluntary affirmative action on the part of employers is underscored by title VII of the Civil Rights Act of 1964, Executive Order 11246, and related laws and regulations—all of which emphasize voluntary action to achieve equal employment opportunity.

As with most management objectives, a systematic plan based on sound organizational analysis and problem identification is crucial to the accomplishment of affirmative action objectives. For this reason, the Council urges all State and local governments to develop and implement results oriented affirmative action plans which deal with the problems so identified.

The following paragraphs are intended to assist State and local governments by illustrating the kinds of analyses and activities which may be appropriate for a public employer's voluntary affirmative action plan. This statement does not address remedies imposed after a finding of unlawful discrimination.

(2) Voluntary affirmative action to assure equal employment opportunity is appropriate at any stage of the employment process. The first step in the construction of any affirmative action plan should be an analysis of the employer's work force to determine whether percentages of sex, race, or ethnic groups in individual job classifications are substantially similar to the percentages of those groups available in the relevant job market who possess the basic job-related qualifications.

When substantial disparities are found through such analyses, each element of the overall selection process should be examined to determine which elements operate to exclude persons on the basis of sex, race, or ethnic group. Such elements include, but are not limited to, recruitment, testing, ranking, certification, interview, recommendations for selection, hiring, promotion, etc. The examination of each element of the selection process should at a minimum include a determination of its validity in predicting job performance.

(3) When an employer has reason to believe that its selection procedures have the exclusionary effect described in paragraph 2 above, it should initiate affirmative steps to remedy the situation. Such steps, which in design and execution may be race, color, sex, or ethnic "conscious," include, but are not limited to, the following:

(a) The establishment of a long-term goal, and short-range, interim goals and timetables for the specific job classifications, all of which should take into account the availability of basically qualified persons in the relevant job market;

(b) A recruitment program designed to attract qualified members of the group in question;

(c) A systematic effort to organize work and redesign jobs in ways that provide opportunities for persons lacking "journeymen" level knowledge or skills to enter and, with appropriate training, to progress in a career field;

(d) Revamping selection instruments or procedures which have not yet been validated in order to reduce or eliminate exclusionary effects on particular groups in particular job classifications;

(e) The initiation of measures designed to assure that members of the affected group who are qualified to perform the job are included within the pool of persons from which the selecting official makes the selection;

(f) A systematic effort to provide career advancement training, both classroom and on-the-job, to employees locked into dead end jobs; and

(g) The establishment of a system for regularly monitoring the effectiveness of the particular affirmative action program, and procedures for making timely adjustments in this program where effectiveness is not demonstrated.

(4) The goal of any affirmative action plan should be achievement of genuine equal employment opportunity for all qualified persons. Selection under such plans should be based upon the ability of the applicant(s) to do the work. Such plans should not require the selection of the unqualified, or the unneeded, nor should they require the selection of persons on the basis of race, color, sex, religion, or national origin. Moreover, while the Council believes that this statement should serve to assist State and local employers, as well as Federal agencies, it recognizes that affirmative action cannot be viewed as a standardized program which must be accomplished in the same way at all times in all places.

Accordingly, the Council has not attempted to set forth here either the minimum or maximum voluntary steps that employers may take to deal with their respective situations. Rather, the Council recognizes that under applicable authorities, State and local employers have flexibility to formulate affirmative action plans that are best suited to their particular situations. In this manner, the Council believes that affirmative action programs will best serve the goal of equal employment opportunity.

Respectfully submitted,

HAROLD R. TYLER, Jr.,
Deputy Attorney General and Chairman of the Equal Employment Coordinating Council.

MICHAEL H. MOSKOW,
Under Secretary of Labor.

ETHEL BENT WALSH,
Acting Chairman, Equal Employment Opportunity Commission.

ROBERT E. HAMPTON,
Chairman,
Civil Service Commission.

ARTHUR E. FLEMMING,
Chairman,
Commission on Civil Rights.

Because of its equal employment opportunity responsibilities under the State and Local Government Fiscal Assistance Act of 1972 (the revenue sharing act), the Department of Treasury was invited to participate in the formulation of this policy statement; and it concurs and joins in the adoption of this policy statement.

Done this 26th day of August 1976.

RICHARD ALBRECHT,
General Counsel,
Department of the Treasury.

Section 18. *Citations.* The official title of these guidelines is "Uniform Guidelines on Employee Selection Procedures (1978)". The Uniform Guidelines on Employee Selection Procedures (1978) are intended to establish a uniform Federal position in the area of prohibiting discrimination in employment practices on grounds of race, color, religion, sex, or national origin. These guidelines have been adopted by the Equal Employment Opportunity Commission, the Department of Labor, the Department of Justice, and the Civil Service Commission.

The official citation is:

"Section ——, Uniform Guidelines on Employee Selection Procedures (1978); 43 FR —— (August 25, 1978)."

The short form citation is:

"Section ——, U.G.E.S.P. (1978); 43 FR —— (August 25, 1978)."

When the guidelines are cited in connection with the activities of one of the issuing agencies, a specific citation to the regulations of that agency can be added at the end of the above citation. The specific additional citations are as follows:

Equal Employment Opportunity Commission
29 CFR Part 1607
Department of Labor
Office of Federal Contract Compliance Programs
41 CFR Part 60-3
Department of Justice
28 CFR 50.14
Civil Service Commission
5 CFR 300.103(c)

Normally when citing these guidelines, the section number immediately preceding the title of the guidelines will be from these guidelines series 1-18. If a section number from the codification for an individual agency is needed it can also be added at the end of the agency citation. For example, section 6A of these guidelines could be cited for EEOC as follows: "Section 6A, Uniform Guidelines on Employee Selection Procedures (1978); 43 FR —— (August 25, 1978); 29 CFR Part 1607, section 6A."

ELEANOR HOLMES NORTON,
Chair, Equal Employment Opportunity Commission.

ALAN K. CAMPBELL,
Chairman, Civil Service Commission.

RAY MARSHALL,
Secretary of Labor.

GRIFFIN B. BELL,
Attorney General.

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FRIDAY, FEBRUARY 9, 1979

PART IV

THE NATIONAL ARCHIVES OF THE UNITED STATES
1934

DEPARTMENT OF AGRICULTURE

Food and Nutrition Service

■

FOOD STAMP PROGRAM

Monitoring and Reporting Program Performance

[3410-30-M]

Title 7—Agriculture

CHAPTER II—FOOD AND NUTRITION SERVICE, U.S. DEPARTMENT OF AGRICULTURE

PART 277—PAYMENT OF CERTAIN ADMINISTRATIVE COSTS OF STATE AGENCIES FOOD STAMP PROGRAM

Monitoring and Reporting Program Performance

AGENCY: Food and Nutrition Service, USDA.

ACTION: Emergency Rulemaking.

SUMMARY: This action sets forth the procedures for temporarily modifying the Food Stamp Quality Control (QC) System pursuant to the Notice of Intent published in the Federal Register on August 11, 1978 (43 FR 35645). This action also modifies the provision in the August 11 Notice of Intent that regular Efficiency and Effectiveness (E&E) reviews resume with the beginning of the caseload conversion process and that regular quality control reviews resume upon completion of caseload conversion.

This action will provide the State and Federal agencies with timely management information to monitor the number of case actions and the quality of the caseload conversion to the provisions of the Food Stamp Act of 1977 and its regulations.

DATES:

Effective Date: March 1, 1979.

Comments must be received on or before April 10, 1979.

ADDRESS: Comments should be submitted to: Nancy Snyder, Deputy Administrator for Family Nutrition Programs, Food and Nutrition Service, United States Department of Agriculture, Washington, DC 20250. A final rulemaking will be issued after considering the comments. All written comments, suggestions or objections will be open to public inspection at the offices of the Food and Nutrition Service, USDA, during regular business hours (8:30 a.m. to 5:00 p.m., Monday through Friday) at 500 12th Street, SW, Washington, D.C., Room 650. A Draft Impact Analysis has been prepared and approved, and is available from Deputy Administrator Snyder. A copy will also be open for public inspection at the offices shown above.

FOR FURTHER INFORMATION CONTACT:

Nancy Snyder, Deputy Adminstrator for Family Nutrition Programs, Food and Nutrition Service, U.S. Department of Agriculture, Washington, DC 20250, 202-447-8982.

SUPPLEMENTARY INFORMATION: In implementing the Food Stamp Act of 1977, State agencies will be called upon to undertake major efforts to retrain staffs, redesign systems, convert approximately 5.3 million households to new eligibility and benefit rules, and change other program operations. It is critical that this implementation process be accomplished accurately, effectively and on schedule, thus establishing a sound operational base for future program performance. Beginning March 1, 1979, State agencies' modified QC Systems shall measure both the number of case actions and the quality of the caseload conversion to the new law and its regulations. These modified quality control reviews shall consist of a desk review of cases certified, converted, denied, and terminated under the October 17, 1978 (43 FR 47846), Food Stamp Program Regulations to ascertain whether certification policies and procedures are being implemented correctly. Each State agency shall submit to the Food and Nutrition Service (FNS) on a monthly basis a report of the results of these reviews. This review procedure will provide timely information for use by management at the State and Federal levels concerning progress and potential problems in converting caseloads. The modified QC System authorized in this notice is temporary and the procedures contained herein will not necessarily be reflected in final Performance Reporting System (PRS) Regulations.

It is the policy of the Department that the public be given the opportunity to participate in rulemaking before issuance. However, because of the need for timely implementation to assure accurate and effective implementation of the October 17 Regulations, Assistant Secretary Carol Tucker Foreman has determined that it is contrary to the public interest to give notice of proposed rulemaking. The publication of this amendment as an emergency rulemaking will give State agencies as much time as possible to prepare for implementation.

Accordingly, Part 277 of Chapter II, Title 7 of the Code of Federal Regulations is amended as follows:

In § 277.10 paragraphs (g) and (h) are added to read as follows:

§ 277.10 Monitoring and Program Performance.

* * * * *

(g) *E&E system.* The E&E System as outlined in the August 11, 1978 (43 FR 35465) Notice of Intent shall remain in force until regular E&E reviews resume under the implementation schedule to be published in final Performance Reporting System (PRS) regulations.

(h) *Modified QC system.* Notwithstanding any other provisions of § 277.10, the modified QC System and Exhibits 1 and 2 contained herein shall be implemented by each State agency no later than March 1, 1979. State agencies will continue operating the modified QC System until permenent QC System regulations are implemented, which shall not be later than September 1, 1979. Publication of permanent QC System regulations will include implementation timeframes for those regulations. State agencies shall conduct modified quality control reviews as follows:

(1) *Review process.* Modified quality control reviews shall be conducted in accordance with the program standards established in Part 273 of the Food Stamp Program Regulations published October 17, 1978 (43 FR 47846), in the FEDERAL REGISTER. The review of cases converted by desk review shall be conducted in accordance with the standards contained in § 272.1(g)(1)(iii). The reviewer shall use information in the case file, i.e., those records which include applications and supporting documentation. If supporting documentation is not maintained with the application file (such as work registration documents) then it, too, shall be provided for this review. Coupon allotment information shall also be made available.

(2) *Modified quality control review worksheet.* Form FNS-132, Modified Quality Control Review Worksheet, is the modified quality control review record and shall be completed for each case selected. This form contains space for entering certain identifying information regarding the household and a list of the review elements (program standards) to be examined with space available for pertinent comments by the reviewer. Exhibit 1 contains a copy of the form and instructions for its completion. As reviews are completed, the findings shall be assembled for data analysis and evaluation. Both active (certified and converted) and negative (denied and terminated) case files shall be desk reviewed to determine proper application of policy, verification, documentation and computation for each review element.

(3) *Deficiencies.* For purposes of this review, each deficiency shall be categorized by the applicable causal factor as defined below:

(i) *Policy application.* Policy application is adherence to the Food Stamp Program policies and procedures as set forth in Part 273 of the regulations except that the policy established in § 272.1(g)(1)(iii) shall be followed for cases converted by desk review. Examples of deficiencies in policy application include, but are not limited to:

(A) Incorrect application of eligibility standards to the certification process (e.g., certifying someone with $3,600 in resources, counting excludable income as income, failure to include certain income and deductions, etc.);

(B) Failure to send required notices or process information within timeframes given in the regulations (e.g., failure to send the Notice of Expiration when applicable or failure to send the Notice within the timeframes given in the regulations);

(C) Inclusion of ineligible or disqualified household members (Supplemental Security Income recipients in cash-out States, aliens whose status is unverified, students who are tax dependents of households ineligible for program benefits or who fail to register for work, etc.);

(D) Failure to work register all household members who are required to be registered for employment; and

(E) Failure to take timely action on reported changes.

(ii) *Verification.* Verification is the use of third party information or documentary evidence by the eligibility worker (EW) to establish the accuracy of statements on the application. Standards for vertification are contained in § 273.2(f) of the regulations. Verification standards for cases converted by desk review are contained in § 272.1(g)(1)(iii) of the regulations. Standards for verification of questionable information are contained in § 273.2(f)(2) of the regulations. Examples of deficiencies in verification include, but are not limited to:

(A) Failure to verify gross nonexempt income;

(B) Failure to verify whether household members identified as aliens are eligible aliens;

(C) Failure to verify questionable information regarding household composition, citizenship, tax dependency, and/or deductible expenses;

(D) Failure to verify resources and/or loans if information is questionable;

(E) Failure to offer assistance to households in obtaining verification;

(F) In cases of expedited service, failure to verify unverified information from the previous certification before recertification; and

(G) Verification where such verification is not required and/or warranted.

(iii) *Documentation.* Documentation is the recording of information in the case file by the EW to support eligibility, ineligibility, and benefit level determinations. Standards for documentation are contained in § 273.2(f)(6) of the regulations. Examples of deficiencies in documentation include, but are not limited to:

(A) Unexplained amounts of income and deductions making it impossible for the reviewer to determine the reasonableness and accuracy of the EW's determination;

(B) Failure to record how required verifications were obtained;

(C) Failure to record why information was considered questionable;

(D) Failure to record why a source of verification such as a collateral contact provided by the household was rejected and an alternate source was used;

(E) Failure to document reasons for work registration exemptions;

(F) Failure to record date of receipt of application (for 30-day processing);

(G) Failure to record date(s) of reported changes; and

(H) Failure to record the date of notices of adverse action (reductions in benefits, denials, terminations).

(iv) *Computation.* Computation includes both arithmetic and transcription processes. Examples of deficiencies in computation include, but are not limited to:

(A) Arithmetic is incorrect;

(B) Cents were not correctly dropped before and after each calculation (except for the computation of shelter costs) as required in § 273.10(e)(1)(ii) of the regulations;

(C) Incorrect conversion tables or numbers were used in converting income to monthly amounts or determining deductions;

(D) Information was incorrectly transcribed from verification forms or from the application onto the application worksheet; and

(E) Coupon allotment for the household size and income was based on the incorrect table or was incorrectly transcribed or entered onto the computer document or Household Issuance Record (HIR) card.

(4) *Review date.*

(i) *Active cases.* The review date for active cases is the date of the latest certification action under the October 17, 1978, regulations. However, in those cases in which a Notice of Expiration should have been sent (e.g., recertifications, and one- or two-month certification periods), the reviewer will determine that the Notice was sent and that it was sent within the timeframes given in the regulations.

(ii) *Negative cases.* The review date for negative cases is the date of the local agency's decision to deny or terminate program benefits under the October 17, 1978, regulations.

(5) *Identification of deficiencies.* Failure on the part of EW to follow the policies and procedures set forth in Part 273 and Section 272.1(g)(1)(iii) of the regulations as well as errors in computation shall constitute a deficiency. All deficiencies shall be recorded on Form FNS-132. It is recognized that the case file itself will not contain information on every program standard in the regulations. Thus, only selected program standards are listed on Form FNS-132. Should information on such unlisted standards become known to the reviewer and a deficiency be found to exist, the reviewer shall record that deficiency on Form FNS-132 under the subelement "Other" of the appropriate element, and identify the program standard and the deficiency in the "Comments" section.

(6) *Disposition of case reviews.* The desk review procedures contained herein should ensure a high completion rate once a case is identified for the modified quality control sample and the case file is located. Each case selected shall be accounted for and shall fall into one of the three categories decribed below:

(i) *Completed.* A review is considered completed if the reviewer has examined all applicable review elements in accordance with the provisions contained herein. However, inability to determine whether information in the case file is correct or incorrect on any particular standard shall not result in the review being coded as incomplete since inadequate documentation in itself is a deficiency and shall be reported.

(ii) *Not completed.* If the reviewer is unable to obtain the case file or the review is not processed before the reporting deadlines, code the review as not completed. However, every effort will be made to complete all reviews. States may be out of compliance with required modified QC System procedures if the number of incomplete reviews exceeds five percent.

(iii) *Not subject to review.* Certain types of cases are not to be included in the modified quality control sample. However, if such cases appear in the sample, code as not subject to review. Such cases include:

(A) Households not yet converted to the new program standards;

(B) Disaster certifications authorized by FNS or designated by the President;

(C) Households certified, converted, denied or terminated in other than the sample month; or

(D) A 60-day continuation of certification.

Cases which are not subject to review under the normal QC System because of the death of all members of the household, households moved out of State, households under investigation for fraud, etc., shall be reviewed since the modified system consists only of desk reviews.

(7) *Sampling procedures.* Cases which have been converted, certified, denied and terminated under the provisions of the Food Stamp Act of 1977 and its regulations shall be subject to review and sampled in accordance with the sampling procedures set forth herein. The sampling procedures de-

scribed below are intended to yield Statewide estimates of the number of cases certified and converted to the program standards of the Food Stamp Act of 1977 and its regulations, and of the number of case actions with deficiences. State agencies may choose, however, to expand the monitoring effort to individual project areas in order to facilitate the corrective action process. Such an expansion shall generate Statewide estimates with the reliability specified below and shall be subject to approval by the appropriate FNS Regional Office.

(i) *Universe.* A universe consists of all units for which information is desired. During the transition to the program standards of the Food Stamp Act of 1977 and its regulations, interest is focused on households converted, certified, denied and terminated under the regulatory provisions of that Act. There are two universes each month for the modified QC System.

(A) *Universe for active cases.* The active universe consists of certification actions during the sample month in which a household is determined to be eligible for benefits, including approved new applications, recertifications and conversions of certified households to the standards of the Food Stamp Act of 1977 and its regulations. The active universe excludes households not yet converted to the new program standards, disaster certifications, certification actions in other than the sample month, and 60-day continuations of certification.

(B) *Universe for negative cases.* The negative universe includes certification actions during the sample month in which households are denied benefits or had their certification terminated under the standards of the Food Stamp Act of 1977 and its regulations.

(ii) *Sample frame.* (A) A frame is equal to or approximates the universe and consists of all units from which the sample is actually selected. Sampling frames shall be constructed for both the active and negative universes. The choice of a sampling frame will depend upon the criteria of data timeliness, data completeness and accuracy, population of interest, administrative burden and other considerations described in the sampling plan submitted by the State agency. States' sampling plans are subject to approval by the appropriate FNS Regional Office.

(B) FNS strongly recommends that States use lists of certification actions to select both the active and negative samples. Lists of certification actions during the sample month (approved new applications, recertifications, and conversions; denials and terminations) provide the closest match to the universe definitions described above. Lists of this type will provide the quickest access to the sampled case records and increase the time available to complete the reviews within FNS reporting deadlines. The negative case quality control sample has generally been selected from this type of frame in the past.

(C) States may elect to use lists of participating or certified eligible households. Participation lists generally consist of households who have redeemed Authorization to Participate (ATP) cards in the sample month. The compilation of a participation list can impose a substantial delay on the review process and may not be easily reconciled with FNS reporting requirements. Households certified to participate who do not redeem an ATP card are excluded from the participating sample frame but are still subject to review.

(D) Lists of certified eligible households are available earlier in the sample month than participation lists, but these lists need to be supplemented by new actions taken during the sample month.

(E) Use of participation or certified eligible lists will result in a sample which contains a mixture of households certified under old and new program standards. Households which have not been converted to the new standards are not subject to review. Thus, both of these two sampling frames require an overpull (i.e., selecting more sample cases than are indicated in the table below) to account for those cases selected in the sample which have not been converted to the new program standards.

(F) In addition, both of these lists contain households certified eligible to participate in earlier months as well as those certified in the sample month. Because the active universe is limited to certification actions during the sample month, households with certification periods in excess of one month are subject to review only in the month of the certification action. If selected in another month, these cases shall be coded not subject to review. Both of these sample methods provide an estimate of the number of unconverted households in the monthy caseload.

(iii) *Sample sizes.* (A) The following table contains the criteria for determining the sample sizes from both the active and negative universes. These criteria are to be applied separately to the active and negative universes.

Estimated monthly caseload	Reliability (95% confidence)	Monthly sample size (p = .20)
more than 50,000	±.035	450
10,000 to 50,000	±.050	250
less than 10,000	±.080	100

(B) To determine the sample size for the active universe, "estimated monthly caseload" refers to the total number of certified households for the month; for the negative sample, it refers to the number of monthly negative actions. Estimates of the monthly caseload may be based on data reported in the January-June 1978 quality control reporting period and need not be adjusted for the duration of the modified QC System.

(C) Estimates of the number of case actions with deficiencies shall be of the specified reliability. The monthly sample sizes in the table assume a systematic or simple random sample (with p = .20). Some States may be able to obtain results of equivalent or better reliability with a smaller sample and appropriate design. States shall have the option to propose and use an alternative sample design, subject to FNS Regional Office approval.

(D) The "monthly sample sizes" refers to case actions to certify, convert, deny and terminate under the eligibility standards of the Food Stamp Act of 1977 and its regulations. In order to assure proper completion of the required sample, an overpull is often desirable. The amount of overpull to compensate for cases selected for the sample and then found to be not subject to review will vary from State to State. In particular, the use of a participation or certified eligible sample frame would require a far larger overpull than would a frame of certification actions. The overpull should be sufficiently large to compensate for the cases selected which are not subject to review but not so large as to increase the workload unnecessarily.

(E) A potential source of bias lies in cases subject to review but not completed. If the number of incomplete reviews is small, any resulting bias will also probably be small. If the number of such cases is large, a considerable bias may be introduced, and there is no assurance that conclusions drawn from the sample apply to the total caseload. To minimize the potential bias of nonresponse, State agencies shall complete at least 95 percent of the required reviews. This percentage is the ratio of the number of completed reviews to the number of cases selected subject to review or to the minimum number of cases subject to review specified in the sample size table, whichever is larger.

(iv) *Selection of sample cases.* The selection of cases for the modified quality control sample is made separately for active and negative cases each month for the duration of the modified QC System. Once a household has been identified for inclusion in the sample by a predesigned sampling procedure, substitutions are not acceptable. If a household is selected more than once as the result of separate and distinct certification actions, the case record shall be reviewed each time. The need for timely information to State and Federal managers is critical during this period. The selection of sample cases shall be made promptly if reviews are to be completed as early as possible. The use of supplementary lists can expedite the selection of sample cases, and their use is recommended. A segment of the monthly frame might be compiled early in the sample month and sample cases could be selected and reviewed almost immediately. Later in the sample month, the frame would be extended by adding those households not included in the earlier segment, and the selection of sample cases would be continued.

(v) *Estimates.* Methods of estimating the number of cases certified and converted to the new program standards and the number of case actions with deficiencies are dependent upon the sample design and the administrative procedures in each State. Estimates of the case deficiency rate can rely on standard estimates of population proportions with appropriate extensions to more complicated sample designs. In those States which select the modified quality control sample from a list of participating or certified eligible households, the number of cases certified and converted to the new standards may be used to estimate the proportion of such households in the population. In some States, an actual count of the number of certification actions in the sample month may be available in the project and/or State office. Some State agencies may be able to provide comparable data by modifying computer files to indicate those households certified and converted to the new standards. A monthly search of those files would then yield the required count. The specific means of providing these estimates shall be included in each State agencies' sampling plan.

(vi) *Sampling plan.* All sampling procedures used by a State agency for the duration of the modified QC System shall be fully documented and available for review by FNS. Prior to March 1, 1979, State agencies shall submit a sampling plan to the appropriate FNS Regional Office for approval which shall include:

(A) Estimates of the average monthly number of certified households and the monthly number of negative cases used in determining sample size;

(B) A description of the sample frames for the active and negative universes;

(C) A description of the sample design for the active and negative samples; and

(D) Procedures for estimating the number of cases certified and converted to the new program standards and the number of case actions with deficiencies.

To receive approval, proposals of sample designs other than systematic or simple random sampling shall conform to the principles of probability sampling and provide population estimates with equivalent or or better precision than would be obtained by a simple random design with the specified sample size.

(8) *Analysis and evaluation of findings.* Modified quality control review results will provide timely information to management at the local, State and Federal levels concerning potential problems in converting caseloads under the provisions of the Food Stamp Act of 1977 and its regulations. State agencies are required to analyze and evaluate the data generated by the modified QC System on a Statewide basis and on an individual project area basis. Analyzing and evaluating these results will aid State agencies in formulating corrective action to eliminate pervasive deficiencies and enable the State agency to effect corrective action at the local level on a more timely basis. State agencies shall provide individual project areas in which cases were reviewed with a copy of Form FNS-132 for each review completed and a copy of the State agency's analysis for the individual project area. In addition, project areas will conduct their own analysis of project area deficiencies. Project areas are required to initiate action to correct individual cases and reduce pervasive deficiencies identified in their own and State agency's analysis. State agencies shall not consider the satisfaction of FNS reporting requirements without further data analysis as fulfilling their responsibilities for the modified QC System.

(9) *Corrective action.* The focus of the modified quality control reviews is on locating types of deficiencies made in applying the certification procedures and determining the causal factors. State agencies are required to take immediate corrective action upon discovery of major deficiencies through modified quality control reviews and maintain a rate of caseload conversion to ensure 100 percent conversion at the end of the caseload conversion period. State agencies shall address corrective action to major deficiencies specifying the timeframes when these corrective actions will be completed. This shall become a part of the State agency's targeted corrective action plan described in the August 11, 1978, Notice of Intent. While emphasis is placed on identifying and correcting areas with major deficiencies, deficiencies in individual cases must also be corrected.

(10) *Reporting requirements.* Exhibit 2 contains a copy of Form FNS-133, Status of Sample Cases Under the Modified Quality Control System, and instructions for its completion. This report includes the estimated number of active and negative case actions, a count of the cases selected and completed each month, and the number of case actions with deficiencies. State agencies shall submit Form FNS-133 reflecting activity for the previous month by the 15th of each month, e.g., cases certified, converted, denied and terminated in March shall be reviewed and the findings reported to FNS no later than April 15. Form FNS-133 shall be submitted as follows: Original to:

Director, Performance Reporting Division,
Family Nutrition Programs, Food and Nutrition Service, U.S. Department of Agriculture, Washington, DC 20250.

Duplicate to the appropriate FNS Regional Office. A supply of preaddressed envelopes is available through the applicable FNS Regional Office.

(11) *Record retention.* In order to be readily accessible, Form FNS-132 and all other material supporting the review findings shall be retained and filed in an orderly sequence. Precaution shall be taken to assure that those records are retained without loss or destruction for the period required by Food Stamp Program Regulations. Information obtained on individual households for quality control purposes shall be safeguarded in accordance with FNS policies on disclosure of information for the Food Stamp program as contained in § 272.1(c) of the regulations. Upon request the State agency shall provide FNS photocopies of Form FNS-132 and any other materials supporting the review findings for cases selected in the sample for the duration of the modified QC System.

(12) *Monitoring.* FNS Regional Offices shall monitor the effectiveness of the State agencies' corrective action measures initiated as a result of the modified quality control reviews under the targeted E&E System and work with State agencies to resolve problems associated with the implementation process.

(91 Stat. 958, as amended (7 U.S.C., 2011-2027).)

NOTE.—The Food and Nutrition Service has determined that this document does not contain a major proposal requiring preparation of an Economic Impact Statement under Executive Order 11821 and OMB Circular A-107.

(Catalog of Federal Domestic Assistance Programs No. 10.551, Food Stamps.)

NOTE.—The reporting and/or recordkeeping requirements contained herein have been approved by the Office of Management and Budget in accordance with the Federal Reports Act of 1942.

Dated: February 5, 1979.

CAROL TUCKER FOREMAN,
Assistant Secretary.

EXHIBIT 1

INSTRUCTIONS FOR COMPLETION OF FORM FNS-132, MODIFIED QUALITY CONTROL REVIEW WORKSHEET

This form is to be completed for all active and negative cases selected in the sample. In Section I, Identifying Information, the reviewer shall enter information regarding the household. In Section II, Review Elements, the reviewer shall enter all deficiencies. In addition, the reviewer shall place a check in the "Reviewed" column to indicate that the element or subelement has been examined. If a deficiency exists in an element or subelement, the reviewer shall enter a check under the appropriate causal factor. If no deficiencies exist in an element or subelement, the reviewer shall make no entry under causal factors in Section II. If the reviewer is unable to determine whether deficiencies exist in an element or subelement, a deficiency shall be recorded under documentation; however, no other deficiencies shall be recorded for that element or subelement.

I IDENTIFYING INFORMATION

Item 1—*Case Name.* Enter the case name as it appears on the food stamp application worksheet.

Item 2—*County and State.* Enter the name of the county and State in which the case action took place.

Item 3—*Food Stamp Case Number.* Enter the food stamp case number as it appears on the food stamp application worksheet.

Item 4—*Certification Date.* For active cases record the date of the latest certification action. For negative cases record the date of the local agency's decision to deny or terminate the case.

Item 5—*Quality Control Review Number.* Enter the review number supplied by the State office.

Item 6—*Sample Month.* Enter the month for which the case was selected for review.

Item 7—*Sample Frame.* Check the appropriate box to indicate the sample frame from which the case action was selected.

Item 8—*Disposition.* Check the appropriate box to indicate the final disposition of each case selected in the sample to show whether the case is completed, not completed, or not subject to review.

Item 9—*Review Findings (Completed Cases Only).* Check the appropriate box to indicate whether a deficiency exists in the case. Leave this item blank if the case is not completed or not subject to review.

Item 10—*Type of Case (Completed Cases Only).* Check the appropriate box to indicate if the case is a new application, a recertification, a conversion, a denial or a termination.

Item 11—*Sample Case Characteristics (Completed Cases Only).* Check the appropriate box to indicate if the houshold receives an AFDC or GA, or an SSI grant. If the household does not receive one of these grants, leave this item blank.

Item 12—*Reviewer.* Enter the full name of the person conducting the review.

Item 13—*Date Assigned.* Enter the date (month, day and year) the case was assigned to the reviewer.

Item 14—*Dated Completed.* Enter the date (month, day and year) the review was completed. If the case was returned to the reviewer by the supervisor for further action also enter the revised completion date.

Item 15—*Supervisor.* Enter the full name of the reviewer's supervisor.

Item 16—*Date Cleared.* Enter the date the supervisor cleared the review for statistical processing.

II REVIEW ELEMENTS

Items 1-10—*Review Elements.* Items 1-10 are elements which are to be reviewed. Some of these elements are divided into subelements. For example: 1. Household Concept (element), c. Citizenship and alien status (subelement). Record deficiencies on the worksheet under the appropriate causal factor(s) (policy application, verification, documentation, or computation). Verficiation is divided into "required" and "not required" columns. A check shall be made in the "required" column whenever the reviewer determines that the EW did not verify information which is either required to be verified by the regulations or seemed questionable. A check shall be made in the "not required" column when the EW has gone beyond the bounds for verification, i.e. verified information when such verification is not required by the regulations or the information is not questionable. When it is determined that a deficiency exists, place a check under the appropriate causal factor next to the applicable element or subelement. In instances where a deficiency in an element or subelement has more than one cause, place a check in the appropriate columns to indicate each causal factor. For example, if misapplication of policy and a lack of documentation exist in Item 4.e. (Resources-vehicles-FMV), place a check by Item 4.e. under the columns for policy application and documentation. If a deficiency is discovered in a program standard not reflected on the worksheet, place a check next to the relative subelement "Other" under the appropriate causal factor and explain more fully in the "Comments" section.

Item 11—*Comments.* Enter in this space any pertinent comments on the case and identify those subelements which are included in the "Other" categories. In order to analyze deficiencies and plan corrective action, specific information will be needed on the categories of deficiencies. Therefore, when necessary the reviewer will also use the "Comments" section to specify the particular area of an element or subelement in which a deficiency exists. For example, every household member who is not exempted from work registration for the reasons listed in § 273.7(b) of the regulations is required to register for work. If the case file shows that a person receiving unemployment compensation is also registered for work, then a check will be placed under policy application for subelement 3(a) Work Registration, Exemptions. The specific area would be identified in the "Comments" section as "work registration of a person receiving unemployment compensation."

[3410-30-C]

EXHIBIT 1

FORM APPROVED OMB NO. 40-R4068

U.S. DEPARTMENT OF AGRICULTURE · FOOD AND NUTRITION SERVICE

MODIFIED QUALITY CONTROL REVIEW WORKSHEET

PART I—IDENTIFYING INFORMATION

1. CASE NAME	2. COUNTY AND STATE	3. FOOD STAMP CASE NUMBER
4. CERTIFICATION DATE	5. QC REVIEW NUMBER	6. SAMPLE MONTH , 1979
7. SAMPLE FRAME ☐ ACTIVE ☐ NEGATIVE	Items 9, 10, and 11 to be checked for completed cases only. 9. REVIEW FINDINGS ☐ DEFICIENCY ☐ NO DEFICIENCY	
8. DISPOSITION ☐ REVIEW COMPLETED ☐ REVIEW NOT COMPLETED ☐ NOT SUBJECT TO REVIEW	10. TYPE OF CASE ACTIVE ☐ NEW APPLICATION ☐ RECERTIFICATION ☐ CONVERSION NEGATIVE ☐ DENIAL ☐ TERMINATION	11. CLASSIFICATION OF CASE ☐ AFDC OR GA ☐ SSI
12. REVIEWER	13. DATE ASSIGNED	14. DATE COMPLETED
15. SUPERVISOR		16. DATE CLEARED

PART II—REVIEW ELEMENTS

ITEMS	REVIEWED	CAUSAL FACTORS				
		POLICY APPLICATION	VERIFICATION		DOCUMENTATION	COMPUTATION
			R	NR		
1. HOUSEHOLD CONCEPT a. COMPOSITION						
b. NONHOUSEHOLD MEMBERS (1) BOARDERS						
(2) STUDENTS/TAX DEPENDENCY						
(3) DISQUALIFIED INDIVIDUALS						
(4) OTHER NONHOUSEHOLD MEMBERS						
c. CITIZENSHIP AND ALIEN STATUS						▨
d. OTHER						
2. RESIDENCY						▨
3. WORK REGISTRATION a. EXEMPTIONS						▨
b. STUDENTS						▨
c. OTHER						▨
4. RESOURCES a. MAXIMUM ALLOWABLE						
b. LIQUID						
c. NONLIQUID						
d. EXCLUSIONS						
e. VEHICLES—FAIR MARKET VALUE						
f. VEHICLES—EQUITY/VALUATION						
g. OTHER RESOURCES						

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PART II—REVIEW ELEMENTS (Continued)

ITEMS	REVIEWED	CAUSAL FACTORS				
		POLICY APPLICATION	VERIFICATION		DOCUMENTATION	COMPUTATION
			R	NR		
5. INCOME a. WAGES AND SALARIES						
b. SELF-EMPLOYMENT						
c. UNEARNED INCOME						
d. EDUCATIONAL GRANTS, SCHOLARSHIPS OR LOANS						
e. EXCLUSIONS (1) VENDOR PAYMENTS						
(2) DEFERRED EDUCATIONAL LOANS, SCHOLARSHIPS, ETC. USED FOR TUITION AND FEES						
(3) REIMBURSEMENTS						
(4) OTHER EXCLUSIONS						
f. OTHER INCOME						
6. DEDUCTIONS a. STANDARD			▨	▨		
b. EARNED INCOME			▨			
c. DEPENDENT CARE						
d. SHELTER COSTS						
e. STANDARD UTILITY ALLOWANCE			▨	▨		
7. DETERMINING HOUSEHOLD ELIGIBILITY AND BENEFIT LEVELS a. MONTH OF APPLICATION			▨	▨		▨
b. DETERMINING INCOME (1) IN MONTH RECEIVED			▨	▨		▨
(2) ANTICIPATING			▨	▨		▨
(3) AVERAGING			▨	▨		▨
c. DETERMINING DEDUCTIONS (1) AS BILLED EXPENSES			▨			▨
(2) AVERAGING			▨	▨		▨
(3) ANTICIPATING			▨	▨		▨
d. CALCULATING NET INCOME AND BENEFIT LEVELS (1) NET MONTHLY INCOME			▨	▨		
(2) MAXIMUM INCOME ELIGIBILITY STANDARD			▨	▨		
(3) THRIFTY FOOD PLAN FOR HOUSEHOLD SIZE REDUCED BY 30% OF NET INCOME			▨	▨		
(4) $10 MINIMUM ALLOTMENT			▨	▨		
e. CERTIFICATION PERIOD			▨	▨		

FORM FNS 132 (1-79)

PAGE 2

PART II—REVIEW ELEMENTS (Continued)						
ITEMS	REVIEWED	CAUSAL FACTORS				
		POLICY APPLICATION	VERIFICATION		DOCUMENTATION	COMPUTATION
			R	NR		
8. NOTICES a. ELIGIBILITY			▨	▨		▨
b. DENIAL			▨	▨		▨
c. PENDING			▨	▨		▨
d. ADVERSE ACTION			▨	▨		▨
e. EXPIRATION			▨	▨		▨
9. APPLICATION PROCESS a. OUT-OF-OFFICE SERVICE			▨	▨		▨
b. 30-DAY PROCESSING			▨	▨		▨
c. EXPEDITED SERVICE (1) ENTITLEMENT—ZERO NET MONTHLY INCOME			▨	▨		
(2) ENTITLEMENT—DESTITUTE DETERMINATION			▨	▨		
(3) DELIVERY STANDARDS			▨	▨		▨
d. PA AND GA APPLICATIONS			▨	▨		▨
e. RECERTIFICATION			▨			▨
f. OTHER						
10. PROCESSING CHANGES a. INCREASES IN BENEFITS						
b. DECREASES IN BENEFITS						
c. OTHER						

11. COMMENTS

FORM FNS 132 (1 79)

[3410-30-M]

EXHIBIT 2

INSTRUCTIONS FOR COMPLETION OF FORM FNS-133, STATUS OF SAMPLE CASES UNDER THE MODIFIED QUALITY CONTROL SYSTEM

The information to be submitted on this form refers to sample cases selected and reviews completed for active and negative cases during the month for which the report is prepared. In addition, this report shall include the estimated total active caseload, the estimated number of active and negative case actions, and the number of case deficiencies.

On the top portion of the form, enter the name of the State, the estimated total active caseload for the sample month, and the month for which the report is prepared.

I. MONTHLY CASE ACTIONS UNDER THE FOOD STAMP ACT OF 1977

Item A—*Estimated Monthly Case Actions.* Record the estimated number of new applications, recertifications, conversions, denials and terminations under the Food Stamp Act of 1977. Enter the total number of estimated monthly case actions for both active and negative cases.

Item B—*Sample Cases Selected: Total.* Record the total number of new applications, recertifications, conversions, denials and terminations selected for review. 1. *Not Subject to Review.* Record the total number of active and negative cases selected in the sample which were not subject to review. 2. *Not Completed.* Record the total number of active and negative cases selected for review which were not completed. All cases which are selected during the month, but not completed in time for inclusion in the FNS-133 report for that month are to be recorded as "not completed" rather than held over for completion in the following month. 3. *Completed/No Deficiency.* Record in the appropriate columns the numbers of cases which were selected for review and completed, and contained no deficiencies. 4. *Completed/Deficiency.* Record in the appropriate columns the number of cases which were selected for review and completed, and contained deficiencies.

Item C—*Sample Case Characteristics.* Record in the appropriate columns the number of completed cases with specific characteristics. 1. *AFDC or GA.* Record the number of cases with income from AFDC or GA grants. 2. *SSI.* Record the number of cases with income from SSI grants.

II. ANALYSIS OF CASE DEFICIENCIES

This section of the form is intended to reflect the number of deficiencies detected in each of the review elements. Record the total number of deficiencies under the appropriate causal factor on the line corresponding to each of the review elements and subelements.

Enter in the "Comments" section, items of significance as a result of the analysis of deficiencies on a Statewide and project area basis. This section is not intended to be a summation of the comments reflected on Forms FNS-132.

[3410-30-C]

EXHIBIT 2

FORM APPROVED OMB NO. 40-R4068

U.S. DEPARTMENT OF AGRICULTURE
FOOD AND NUTRITION SERVICE

STATUS OF SAMPLE CASES UNDER THE MODIFIED QUALITY CONTROL SYSTEM

STATE	ESTIMATED TOTAL ACTIVE CASELOAD	FOR THE MONTH OF , 1979

I. MONTHLY CASE ACTIONS UNDER THE FOOD STAMP ACT OF 1977	ACTIVE CASES				NEGATIVE CASES		
	TOTAL	NEW APPLICATIONS	RECERTIFICATIONS	CONVERSIONS	TOTAL	DENIALS	TERMINATIONS
A. ESTIMATED MONTHLY CASE ACTIONS							
B. SAMPLE CASES SELECTED: TOTAL		▨	▨	▨		▨	▨
1. NOT SUBJECT TO REVIEW		▨	▨	▨		▨	▨
2. NOT COMPLETED		▨	▨	▨		▨	▨
3. COMPLETED/NO DEFICIENCY							
4. COMPLETED/DEFICIENCY							
C. SAMPLE CASE CHARACTERISTICS 1. AFDC OR GA							
2. SSI							

II. ANALYSIS OF CASE DEFICIENCIES	CAUSAL FACTORS									
	POLICY APPLICATION	VERIFICATION		DOCUMENTATION	COMPUTATION	POLICY APPLICATION	VERIFICATION		DOCUMENTATION	COMPUTATION
		R	NR				R	NR		
1. HOUSEHOLD CONCEPT a. COMPOSITION										
b. NONHOUSEHOLD MEMBERS (1) BOARDERS										
(2) STUDENTS/TAX DEPENDENCY										
(3) DISQUALIFIED INDIVIDUALS										
(4) OTHER NONHOUSEHOLD MEMBERS										
c. CITIZENSHIP AND ALIEN STATUS					▨					▨
d. OTHER										
2. RESIDENCY					▨					▨
3. WORK REGISTRATION a. EXEMPTIONS					▨					▨
b. STUDENTS					▨					▨
c. OTHER					▨					▨
4. RESOURCES a. MAXIMUM ALLOWABLE										
b. LIQUID										
c. NONLIQUID										
d. EXCLUSIONS										
e. VEHICLES–FAIR MARKET VALUE										
f. VEHICLES–EQUITY/VALUATION										
g. OTHER RESOURCES										

FORM FNS 133 (1-79) PAGE 1

II. ANALYSIS OF CASE DEFICIENCIES (Continued)	ACTIVE CASES					NEGATIVE CASES				
	CAUSAL FACTORS					CAUSAL FACTORS				
	POLICY APPLICATION	VERIFICATION		DOCUMENTATION	COMPUTATION	POLICY APPLICATION	VERIFICATION		DOCUMENTATION	COMPUTATION
		R	NR				R	NR		
5. INCOME a. WAGES AND SALARIES										
b. SELF-EMPLOYMENT										
c. UNEARNED INCOME										
d. EDUCATIONAL GRANTS, SCHOLARSHIPS OR LOANS										
e. EXCLUSIONS (1) VENDOR PAYMENTS										
(2) DEFERRED EDUCATIONAL LOANS, SCHOLARSHIPS, ETC. USED FOR TUITION AND FEES										
(3) REIMBURSEMENTS										
(4) OTHER EXCLUSIONS										
f. OTHER INCOME										
6. DEDUCTIONS a. STANDARD		▨	▨				▨	▨		
b. EARNED INCOME		▨					▨			
c. DEPENDENT CARE										
d. SHELTER COSTS										
e. STANDARD UTILITY ALLOWANCE		▨	▨				▨	▨		
7. DETERMINING HOUSEHOLD ELIGIBILITY AND BENEFIT LEVELS a. MONTH OF APPLICATION		▨	▨		▨		▨	▨		▨
b. DETERMINING INCOME (1) IN MONTH RECEIVED		▨	▨		▨		▨	▨		▨
(2) ANTICIPATING		▨	▨		▨		▨	▨		▨
(3) AVERAGING		▨	▨		▨		▨	▨		▨
c. DETERMINING DEDUCTIONS (1) AS BILLED EXPENSES		▨			▨		▨			▨
(2) AVERAGING		▨	▨		▨		▨	▨		▨
(3) ANTICIPATING		▨	▨		▨		▨	▨		▨
d. CALCULATING NET INCOME AND BENEFIT LEVELS (1) NET MONTHLY INCOME		▨	▨				▨	▨		
(2) MAXIMUM INCOME ELIGIBILITY STANDARD		▨	▨				▨	▨		
(3) THRIFTY FOOD PLAN FOR HOUSEHOLD SIZE REDUCED BY 30% OF NET INCOME		▨	▨				▨	▨		
(4) $10 MINIMUM ALLOTMENT		▨	▨				▨	▨		
e. CERTIFICATION PERIOD		▨	▨				▨	▨		

FORM FNS 133 (1-79) PAGE 2

II. ANALYSIS OF CASE DEFICIENCIES (Continued)	ACTIVE CASES					NEGATIVE CASES				
	CAUSAL FACTORS					CAUSAL FACTORS				
	POLICY APPLICATION	VERIFICATION		DOCUMENTATION	COMPUTATION	POLICY APPLICATION	VERIFICATION		DOCUMENTATION	COMPUTATION
		R	NR				R	NR		
8. NOTICES a. ELIGIBILITY		▨	▨		▨		▨	▨		▨
b. DENIAL		▨	▨		▨		▨	▨		▨
c. PENDING		▨	▨		▨		▨	▨		▨
d. ADVERSE ACTION		▨	▨		▨		▨	▨		▨
e. EXPIRATION		▨	▨		▨	▨	▨	▨	▨	▨
9. APPLICATION PROCESS a. OUT-OF-OFFICE SERVICE		▨	▨		▨		▨	▨		▨
b. 30-DAY PROCESSING		▨	▨		▨		▨	▨		▨
c. EXPEDITED SERVICE (1) ENTITLEMENT–ZERO NET MONTHLY INCOME		▨	▨				▨	▨		
(2) ENTITLEMENT–DESTITUTE DETERMINATION		▨	▨				▨	▨		
(3) DELIVERY STANDARDS		▨	▨		▨		▨	▨		▨
d. PA & GA APPLICATIONS		▨	▨		▨		▨	▨		▨
e. RECERTIFICATION		▨			▨		▨			▨
f. OTHER										
10. PROCESSING CHANGES a. INCREASES IN BENEFITS										
b. DECREASES IN BENEFITS										
c. OTHER										

11. COMMENTS

FORM FNS 133 (1-79)

PAGE 3

[FR Doc. 79-4493 Filed 2-8-79; 8:45 am]

federal register

FRIDAY, FEBRUARY 9, 1979

PART V

THE NATIONAL ARCHIVES OF THE UNITED STATES
1934

DEPARTMENT OF ENERGY

Office of Hearings and Appeals

■

ADMINISTRATIVE PROCEDURES AND SANCTIONS

Special Procedures for Distribution of Refunds

[6450-01-M]

Title 10—Energy

CHAPTER II—DEPARTMENT OF ENERGY

PART 205—ADMINISTRATIVE PROCEDURES AND SANCTIONS

Subpart V—Special Procedures for Distribution of Refunds

AGENCY: Office of Hearings and Appeals, Department of Energy.

ACTION: Final Rule.

SUMMARY: This rule adds a new Subpart V to the administrative procedure regulations of the Department of Energy (DOE). It establishes special procedures providing for the distribution of refunds paid by firms subject to the DOE regulatory program when those payments are required pursuant to a remedial order, remedial order for immediate compliance, order of disallowance, or consent order. The special procedures may be invoked when the DOE is unable to readily ascertain the identity of the persons injured by an overcharge or the amount of the refunds due such persons.

EFFECTIVE DATE: February 9, 1979.

FOR FURTHER INFORMATION CONTACT:

George B. Breznay, Deputy Director, Office of Hearings and Appeals, Department of Energy, 2000 M Street, N.W., Room 8014, Washington, D.C. 20461, Telephone: (202) 254-9681.

Gaynell C. Methvin, Deputy General Counsel for Enforcement and Litigation, Office of General Counsel, Department of Energy, 1200 Pennsylvania Avenue, N.W., Washington, D.C. 20461, Telephone: (202) 633-9199.

SUPPLEMENTARY INFORMATION:

I. BACKGROUND
II. DISCUSSION OF COMMENTS
A. Authority to Promulgate Refund Regulations
B. Payment of Refunds to the United States Treasury
C. Affiliated Entities
D. The Use of Presumptions
E. Expenses Incurred in Administering a Refund Proceeding
F. Methods of Guaranteeing Payment of Funds
G. Applications for Refunds on Behalf of a Class
H. Issues Not Directly Related to the Special Refund Regulations

I. BACKGROUND

On November 15, 1978 the DOE published a proposed rule that would add a new subpart, Subpart V, to Part 205 of Title 10 of the Code of Federal Regulations, the DOE procedural regulations. 43 FR 53,256 (1978). The new subpart provides a general framework pursuant to which the DOE Office of Hearings and Appeals may order refunds to be made to injured persons from funds remitted by regulated firms in connection with certain enforcement proceedings. A proceeding under this subpart would be initiated by the filing of a petition for the implementation of special refund procedures by the DOE Office of Special Counsel, the DOE Office of Enforcement or any other DOE enforcement official. Special procedures could then be implemented if (i) the DOE had issued a final remedial order, remedial order for immediate compliance or order of disallowance finding that an overcharge had occurred or had entered into a consent order authorizing the payment of funds to persons who may have been overcharged, and (ii) the DOE enforcement official responsible for the proceeding had been unable to ascertain the identity of the particular persons entitled to refunds or the precise amount of such refunds.

The FEDERAL REGISTER notice invited interested persons to submit written comments and to make oral presentations. A public hearing was held on December 12, 1978, and three industry groups and two major petroleum firms made presentations. Additional written comments were submitted by a total of 23 persons. The commenters included 5 industry groups, 14 petroleum firms, a cooperative, a group of municipal utilities, the Tennessee Valley Authority, and the New York State Energy Office. These comments have been reviewed and considered in preparing final regulations, and they are available for public inspection in the DOE Public Docket Room at 2000 M Street, N.W., Washington, D.C. The comments and the changes to the proposed rule made in response to the comments are discussed below. The final rule is quite similar to the proposed rule, however, and the explanation of the proposed regulations published in the Notice of Proposed Rulemaking is incorporated herein by reference.

II. DISCUSSION OF COMMENTS

A. AUTHORITY TO PROMULGATE REFUND REGULATIONS

A number of commenters have questioned the authority of the Department of Energy in general, and of the Office of Hearings and Appeals in particular, to promulgate regulations providing for the distribution of refunds.

The question of the authority of the Department of Energy to promulgate special refund rules was discussed at length in a decision issued in a refund proceeding concerning a consent order issued to Gulf Oil Corporation. *See Office of Special Counsel for Compliance*, 1 DOE Par. 82,586, 43 FR 38,548 (1978). In that decision the DOE observed that under certain circumstances it may be difficult to identify the particular persons entitled to refunds that a firm is directed by the DOE to make or to ascertain the precise amount of a refund that such persons are entitled to receive. As a consequence, it was further noted, the usual enforcement proceeding mechanisms, which are designed primarily to ascertain only the existence and total amount of a violation, might well be inadequate. If it were not able to identify the persons overcharged and to ascertain the specific refund amounts, the DOE concluded, its ability to maintain equitable prices at all levels of distribution in the petroleum industry and to ensure compliance in the industry with the DOE regulatory program could be seriously undermined. The DOE determined that a more formal and comprehensive procedure might therefore be necessary in certain cases to effectuate the objectives of its remedial authority. In the decision referred to, the DOE described the sources of its authority in this regard as follows:

> The authority of the FEA and the DOE to issue Remedial Orders requiring refunds to purchasers has been consistently sustained. *Shell Oil Company*, 3 FEA Par. 80,545 (January 6, 1976); *accord, Southwestern Exploration Consultants, Inc.*, 1 DOE Par. 80,257 (May 9, 1978); *MacKellar, Inc.*, 5 FEA Par. 80,655 (June 8, 1977). The basis for these holdings was expressed in *Shell Oil Company* in the following manner:
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> The Congress was well aware of the fact that the Cost of Living Council had issued remedial orders requiring price rollbacks and refunds under the authority of the ESA [Economic Stabilization Act of 1970, as amended], and that this practice had been recognized as a legitimate exercise of regulatory authority by the Federal courts. *See, e.g., University of Southern California v. Cost of Living Council*, 472 F. 2d 1065 (T.E.C.A. 1972), *cert. denied*, 410 U.S. 928 (1973); and *De Rieux v. Five Smiths, Inc.*, 499 F. 2d 131 (T.E.C.A. 1974). As the successor to the Cost of Living Council with respect to the administration of price controls covering the petroleum industry, the FEO (and later the FEA) was also created to meet a national crisis and received the same broad discretionary powers for the enforcement of price controls. *See* Exec. Order No. 11748, 3 CFR 376 (1974); *see also* Note, *Phase V: The Cost of Living Council Reconsidered*, 62 Geo. L. J. 1663, 1665 (1974). In enacting the EPAA, the Congress authorized the FEA to promulgate a regulatory program in order to ensure, to the maximum extent feasible, that equitable prices would be charged for refined petroleum products throughout the United States. EPAA, Sections 4(a) and 4(b)(1).
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> *Shell Oil Company*, 3 FEA at 80,690.
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> Moreover, Section 7(a) of the Federal Energy Administration Act of 1974 (FEAA), 15 USC 766(c), expressly authorizes the FEA Administrator to "promulgate such rules, regulations, and procedures as may be necessary to carry out the functions vested in him * * *." Those functions include a di-

> rective to "promote stability in energy prices to the consumer * * * [and] prevent unreasonable profits within various segments of the energy industry * * *." FEAA 5(b)(5), 15 USC 764(b)(5). The responsibilities involved also extend to promulgating regulations providing for the "equitable distribution of crude oil, residual fuel oil and refined petroleum products at equitable prices among all the regions and areas of the United States and sectors of the petroleum industry * * *." Emergency Petroleum Allocation Act of 1973, Section 4(b)(1)(F).
>
> Pursuant to Section 301 of the Department of Energy Organization Act, 42 USC 7151, all the functions formerly vested by law in the FEA Administrator have been transferred to the Secretary of Energy. The regulation authorizing the issuance of the Proposed Consent Order, 10 CFR 205.199I, was promulgated pursuant to that authority. 43 FR. 3995, 4001 (January 31, 1978). The Proposed Consent Order was in turn issued pursuant to Section 205.199I and is designed to prevent the retention of revenues by a party who allegedly violated mandatory price regulations and to compensate the customers that have been overcharged. *See Shell Oil Company,* 3 FEA at 80,691.
>
> Gulf is a major integrated petroleum firm engaged in the production, transportation, refining and marketing of crude oil and refined petroleum products. Gulf sells an extensive schedule of petroleum products.
>
> Since it is one of the largest petroleum firms in the United States, the purchasers of its products number in the millions. Because of the nature of the particular pricing practices alleged in the NOPD, which concern a fundamental element in a refiner's calculation of maximum permissible prices, each purchaser of Gulf products was potentially affected. However, the flexibility accorded refiners under the refiner price rule of the Mandatory Petroleum Regulations makes it extremely difficult to allocate specific overcharges to any particular sales transaction or to identify the specific customers who were overcharged. That determination is further complicated in this case by the fact that the practices in question occurred as long ago as five years.
>
> Under these circumstances it would appear necessary to implement an administrative claims procedure in order to ensure that the statutory objectives referred to above are fulfilled. It would, for example, be exceedingly difficult for the DOE to ensure that prices for petroleum products are established in an equitable manner unless an efficient and effective remedy exists for directing refunds to parties that have been overcharged. It would appear essential to do so in this case on the basis of a special claim procedure because of the difficulties discussed above which a particular claimant would otherwise experience in establishing the amount of overcharges that should properly be attributable to a purchase that he made. In other words, even though it is very likely that overcharges occurred, the discretion which Gulf possessed as to the manner in which it could determine its prices makes it very unlikely that any particular claimant could prove the nature and extent of its direct injuries. Unless a special claims procedure is adopted, there would appear to be little likelihood that individual purchasers and consumers would be able to obtain refunds. This situation would occur despite the fact that purchasers and consumers as a class are entitled to refunds. In view of these considerations we have concluded that the statutory provisions referred to above provide implicit authority for the DOE to implement an administrative claims procedure under the facts presented in this case.
>
> Morever, even aside from this authority which derives from the statutory objectives which the DOE has been directed to fulfill, other recently enacted statutory provisions would appear to provide an even more direct expression of the Secretary's authority to establish and administer a claims procedure. Section 644 of the Department of Energy Organization Act (DEOA), 42 USC 7254, authorizes the Secretary to "prescribe such procedural and administrative rules and regulations as he may deem necessary or appropriate to administer and manage the functions now or hereafter vested in him." Those functions certainly encompass the statutory objectives discussed above of ensuring that equitable prices are charged to consumers and to all sectors of the petroleum industry. The Secretary may in turn delegate the promulgation of procedures or rules for doing so to the Office of Hearings and Appeals. DEOA, Section 642, 42 USC 7252.

Office of Special Counsel for Compliance, 1 DOE at 85,274-75, 43 FR at 38,549-50.

For the reasons stated in the decision quoted above, we have concluded that the Department of Energy has, as part of its general remedial authority, statutory authority to implement special refund procedures in appropriate cases.

Another point made in several of the written and oral comments pertained to the specific authority of the Office of Hearings and Appeals to promulgate special refund regulations. These commenters maintained that the proposed regulations were not merely procedural regulations, but instead contained substantive rules, which the Office of Hearings and Appeals has not been delegated authority to promulgate.

We do not agree with this position. The special refund regulations are designed only to establish a procedural mechanism in a particular type of enforcement proceeding. The DOE's authority to require refunds is not in doubt, and the Office of Hearings and Appeals has already adopted similar procedural rules on a case-by-case basis in proceedings where the Office of Enforcement was unable to fashion a remedy sufficient to accomplish the objectives of the enforcement proceeding. *See, e.g. Office of Special Counsel for Compliance,* 1 DOE at 85,279-82; *Getty Oil Co.,* 1 DOE Par. 80,102 (1977) (payments ordered to the United States Treasury); *Gulf Oil Corp.,* 3 FEA Par. 85,013 (1976) (ordered establishment of escrow account). The general refund regulations do not prescribe any new substantive criteria for determining when a violation of regulatory requirements has occurred. Rather, they establish a general procedural framework within which the DOE may determine the manner in which applications for refunds should be submitted and the data that they should contain. The regulations contemplate that in each case the Office of Hearings and Appeals will conduct an adjudicatory proceeding and issue an order establishing specific procedures and standards on the basis of the circumstances present in the particular case.

In any event, the objections on this ground have no basis since the Office of Hearings and Appeals has been delegated specific authority to promulgate substantive rules in this area. The commenters are correct in pointing out that Paragraph 15 of Delegation Order No. 0204-24, the general delegation of authority from the Secretary of Energy to the Director of the Office of Hearings and Appeals, refers only to authority to promulgate regulations of a procedural nature. Paragraph 14 of that Order, however, specifies that additional authority may be conferred from time to time. Pursuant to Paragraph 14 of the Office of Hearings and Appeals Delegation Order, the Acting Secretary issued a memorandum order on November 2, 1978, authorizing the Director of the Office of Hearings and Appeals:

> to exercise the authority of the Secretary to issue rules pursuant to which:
>
> (1) the persons entitled to refunds specified in a Remedial Order, Proposed Consent Order or Consent Order are identified and the amount of the appropriate refunds are ascertained; and
>
> (2) the refunds specified are distributed.
>
> [The Director is] further authorized to adopt and administer a procedure for adjudicating claims to funds made available to the Department of Energy as a result of enforcement actions. These adjudications may occur on an *ad hoc* basis or pursuant to the general rules described above. In the course of administering the claims procedure [the Director] may take the measures [he deems] necessary or appropriate to reach equitable results in an expeditious manner.

The Office of Hearings and Appeals has, then, with regard to refunds ordered in enforcement proceedings, been delegated the authority of the Secretary to issue rules governing all the stages of the refund process. This broad delegation includes the power to promulgate substantive rules in order to ensure that the procedure operates in a fair and efficient manner.

B. PAYMENT OF REFUNDS TO THE UNITED STATES TREASURY

Several commenters have claimed that the DOE has no authority to require the payment of refunds to the United States Treasury. Others have objected to that provision of the proposed regulations on other grounds. The view was expressed that the payment of refunds to the United States Treasury would unfairly expose a firm subject to the DOE's jurisdiction to double liability.

The commenters point out that a person who alleges that he has been injured as a result of an overcharge could decide to file an action in court under Section 210 of the Economic Stabilization Act of 1970 (ESA), Pub. L. 92-210, rather than an application for refund under the DOE administrative process. Because the amount specified in the DOE compliance order would not be subject to claims in the administrative process from persons electing to pursue their remedies solely in court actions, the amount refunded to overcharged purchasers could be less than the total amount of the refund obligation. The excess amount could, the commenters indicate, be remitted to the United States Treasury. However, if the firm was at the same time unsuccessful in defending the lawsuit brought against it for the same violation that led to the refund procedure, it would have to remit the overcharge involved to its purchaser in the judicial proceeding. Since the firm involved could not retrieve the funds that had already been deposited in the United States Treasury to meet the court judgment, it would be subject to a double liability.

Other commenters have also maintained that refunds paid to the Treasury would constitute a civil penalty that has not been authorized by statute. Finally, one commenter argued that such payments could not be approved for violations occurring before final promulgation of the refund regulations, because to do so would be to impose retroactively a new remedy that could injure the regulated persons by subjecting them to the type of additional liability already mentioned.

It should first be noted that the regulations do not require all or any portion of the refunds to be paid to the Treasury. That particular remedy is only one of the methods permitted under the regulations, and moreover, the double liability problem to which the commenters refer could be avoided in cases in which payments may ultimately be made to the Treasury simply by delaying payment of all refunds until the period in which court actions can be initiated based on the pertinent violation has ended. At that time the outcome of all pending court actions would be known and special arrangements could be made to reimburse the defendant firm for court judgments. Thus, a firm subject to a DOE compliance order would not have to compensate injured persons twice for the same violation. The amount of any administrative refunds made to persons who also initiate civil actions under Section 210 of the ESA would, of course, be applied to reduce the amount of their injuries and any subsequent court judgment in their favor, thereby eliminating the possibility of double liability.

The commenters taking the position that payment of refunds to the Treasury would constitute a civil penalty appeared to confuse the refunds accorded to overcharged purchasers under these regulations with statutory provisions that permit a court to assess penalties in addition to overcharges. The refunds contemplated in these regulations involve only overcharge amounts, not penalties, and consist only of revenues that the firm involved was never entitled to receive.

The argument that payments to the Treasury represent a completely new remedy, which may have only prospective effect and cannot be applied to pre-existing violations, does not withstand critical examination. As noted above, the remedy described in the refund regulations is not new, since the Office of Hearings and Appeals has previously developed it through the case-by-case adjudication process. Moreover, it does not impose a new substantive rule, because it does not deprive a violator of funds that he would otherwise have a legal right to retain. A firm that has violated the DOE regulations by charging improper prices would, of course, be unjustly enriched if it were permitted to retain the revenues it improperly obtained, and the remission of those revenues to the United States Treasury when individual purchasers do not file claims for the funds in no way imposes an improper retroactive sanction. It merely establishes an appropriate mechanism through which a firm that violated the law is required to disgorge the funds it unlawfully obtained.

C. AFFILIATED ENTITIES

Under § 205.286(c) of the proposed regulations, any person or firm owned or controlled by the firm that was the subject of the enforcement order was ineligible to receive a refund. Some of the commenters objected to this provision on the grounds that it is possible that part of the total refund that a firm is ordered to make will reflect overcharges to an affiliated entity, and it would be unfair in such a case to deny the affiliate that portion of the refund.

These objections are well-taken. The purpose of the original provision was to eliminate the possibility that a firm charged with violating the regulations would gain an unwarranted advantage by essentially dealing with itself. If indeed part of an overcharge cited in a compliance order reflects the amount by which an affiliate was overcharged, however, it might well be proper to refund that portion of the overcharge to the affiliate even if the firm charged with the violation might receive some benefit. In addition, an overcharge to an affiliate may have been passed through to customers of the affiliate, and if the disqualification in § 205.286(c) were applied it might make it more difficult to identify affected customers of the affiliate who are entitled to refunds. We further note that § 205.286(c) might have an unintended effect on cooperatives and owners of minority interests in an affiliate who received no benefit from the original overcharge and who thus might be unfairly deprived of a portion of a refund. In view of these considerations, § 205.286(c) has been deleted and the proper treatment of refunds to affiliates will be determined on a case-by-case basis.

D. THE USE OF PRESUMPTIONS

In response to several comments, the reference to "irrebuttable" presumptions in § 205.282(e) has been deleted. Some of the commenters objected strongly to the use of such presumptions, pointing out the adverse effects that such presumptions might have on the rights of affected parties.

We are cognizant of the dangers involved in adopting an irrebuttable presumption which could prevent a party from contesting a factual issue affecting substantive rights. For this reason irrebuttable presumptions will not be specified in the special refund regulations, and irrebuttable presumptions will not be favored as a tool for distributing refunds. It should nevertheless be noted that, while not favored, irrebuttable presumptions may be essential under certain circumstances. Their use, however, will be carefully limited to those instances in which it is shown that the objectives of the underlying statutory authority for taking remedial action against regulated firms would otherwise be frustrated.

E. CERTAIN EXPENSES INCURRED IN ADMINISTERING A REFUND PROCEEDING

The special refund regulations specifically permit the use of a portion of the funds remitted pursuant to a remedial order or consent order to pay expenses incurred in administering a refund proceeding. For example, § 205.284(a) authorizes the Office of Hearings and Appeals to appoint and compensate an administrator for performing clerical and other functions associated with evaluating refund applications. A portion of the funds may also be used to pay expenses associated with the maintenance of an escrow account. See § 205.287(b).

The principal objection that has been made to the provisions cited is that such payments necessarily result in a reduction in the amount that is available for refunds to injured persons. The commenters making this objection, however, overlook the fact that it is intended that such payments will be made only when the functions being performed are appropriate, and indeed necessary, for the efficient administration of the refund process. In addition, the amount of the total refund may be large, and appropriate safeguards, such as an escrow account, are part of an effort to protect the funds for the use of the ultimate beneficiaries.

The refund regulations require that all costs and charges paid from the total fund be expressly approved by the Office of Hearings and Appeals, and we note that payment of such costs from total funds for the benefit of a class of unidentified injured persons is an accepted practice in class actions filed under Rule 23 of the Federal Rules of Civil Procedure.

It is also argued that since the payment of administrative costs will reduce funds available to compensate injured persons and the firm making the refund may be subject to lawsuits under Section 210 of the ESA, it could be exposed to a potential liability in excess of the actual overcharges. As noted above, however, we expect that the amount that an injured person may recover in a civil damage action under Section 210 of the ESA will be reduced by the amount of any administrative refund with respect to the same matter. It would, in our view, also appear to be appropriate to reduce any such civil claim by a portion of the costs incurred for the benefit of such person in making the administrative award.

In any event, we believe that these provisions are a proper exercise of administrative discretion. As the DOE has stated in a number of decisions involving appeals of compliance orders, an important purpose of any remedial action is to ensure that persons injured by a regulatory violation are fully compensated for the injury that they have sustained. *See, e.g., Cities Service Co.*, 5 FEA Par. 80,627 (1977); *Quincy Oil, Inc.*, 5 FEA Par. 80,589 (1977); *Earl F. Wakefield*, 5 FEA Par. 80,550 (1977); *Atlantic Richfield Co.*, 4 FEA Par. 80,536 (1976). Consequently, Section 205.199I of the interim procedural regulations applicable to compliance actions authorizes, and the DOE regularly requires payment of interest on overcharges from the date of the violation. Similarly, discretion exists to assess against a firm that has violated the regulations the reasonable and necessary costs incurred in identifying and paying injured persons in order to ensure reasonable compensation to victims of overcharges.

Finally, a number of commenters have remarked that the refund regulations do not describe the manner in which the Office of Hearings and Appeals will appoint an administrator when it finds in a given case that the appointment of a person to perform the routine tasks involved is desirable. Those commenters point out that various regulations and statutes refer to the process by which government agencies in general and officials of the DOE in particular may contract with private persons on behalf of the government. Of course, the Office of Hearings and Appeals will comply fully with all applicable statutes and regulations in implementing the special refund procedures.

F. METHODS OF GUARANTEEING PAYMENT OF FUNDS

Section 205.287 of the proposed regulations specified that the Office of Hearings and Appeals could require a firm to establish an escrow account for the funds to be tendered pursuant to the Remedial Order or Consent Order. Several commenters suggested that firms be allowed to post a bond or other guarantee of payment to eliminate the expense of escrow agents. The final regulations provide that an order shall be issued by the Office of Hearings and Appeals in every refund proceeding to specify the manner in which payment of the funds is to be guaranteed. The methods may include the establishment of an escrow account, a segregated fund maintained by the firm, a bond, or merely a written guarantee of payment upon demand depending upon the particular circumstances. The order may further require that interest be accrued at a reasonable rate, regardless of the method of guarantee selected. Escrow agents and sureties may be specified in the order, or may be chosen by the firm subject to the approval of the Office of Hearings and Appeals.

Some commenters perceived a problem if an order were to require payment of funds prior to an appeal to the Federal Energy Regulatory Commission (FERC). Under the Department of Energy Organization Act, FERC does have jurisdiction over appeals of remedial orders. Department of Energy Organization Act, Section 503(c), Pub. L. 95-91. The orders issued under these refund regulations are different in nature, however, from remedial orders and are not appealable to FERC. In any event, in administering the refund procedures the Office of Hearings and Appeals does not contemplate taking any action until any appeal of a remedial order has been decided or the time within which an appeal can be filed has expired. Special circumstances presented in given cases may, however, require us to depart from this general operating procedure.

G. APPLICATIONS FOR REFUNDS ON BEHALF OF A CLASS

States and public interest groups have raised the possibility of permitting Applications for Refund to be filed on behalf of a class of purchasers whose claims would normally be too small to warrant individual attention. See § 205.286(b). The regulations in no way preclude the filing of an Application for Refund on behalf of a class. Such an Application filed on behalf of a class should state the method proposed for distributing in an equitable manner the refund applied for. Special procedures and public hearings could be established for such Applications on a case-by-case basis. We anticipate that States and nonprofit groups may file such class applications on behalf of their citizens and members who would otherwise have no incentive to file. Naturally, procedures would have to be devised to ensure that members of the class would be permitted to withdraw from the class and file individual applications.

H. ISSUES NOT DIRECTLY RELATED TO THE SPECIAL REFUND REGULATIONS

A number of comments and objections made in this rulemaking proceeding concern matters that relate in a general way to the distribution of refunds, but do not directly concern the special refund regulations themselves. Many of these comments relate, for example, to determinations that might be reached in specific refund adjudications.

The refund regulations, as we have previously indicated, are designed merely to provide a procedural framework within which the Department of Energy may distribute refunds to persons injured as a result of an overcharge or an alleged overcharge. Within that framework the DOE will determine on a case-by-case basis the most appropriate procedure for distributing refunds and will then implement that procedure. Undoubtedly in the course of the proceedings contemplated by the special refund regulations substantive issues will be presented with regard to the particular mechanism established in a given case for distributing refund amounts. It would not be appropriate in the context of a rulemaking proceeding of this nature to address such issues, and our consideration of them will therefore be deferred until they are properly raised in the context of a specific refund proceeding. However, we shall note three such issues for purposes of illustration.

Several commenters have observed that the DOE is not prohibited by the special refund regulations from distributing refunds to persons who did not purchase covered products directly from the firm required to make a refund by a remedial order or consent order. These commenters maintain that under their interpretation of the price regulations a customer has not been "overcharged" unless the firm from whom the customer purchased covered products itself violated the DOE regulations. Under this interpretation, if a refiner overcharged a reseller and the reseller passed on the higher price to an ultimate consumer, the consumer was not overcharged and therefore is not entitled to a refund. The Decision of the Supreme Court in *Illinois Brick Co. v. Illinois*, 431 U.S. 720 (1977), is cited in support of that proposition.

Other commenters have noted that the regulations permit a distribution of refunds to injured persons on a pro rata basis. Such a method of distribution, they note, might result in the refund to some purchasers of an amount that is less than the actual injury they incurred as a result of the overcharge. Consequently, the commenters maintain, some injured parties may not be fully compensated and, in addition, the firm that was required to make the refund might be exposed to a liability in excess of the actual overcharge because an injured person who is not fully compensated could, under Section 210 of the ESA, maintain a civil action for the uncompensated injury.

Finally, one commenter recommended other uses of funds that remain undistributed at the culmination of a refund proceeding, rather than deposit of the funds into the United States Treasury. It was suggested, for instance, that a trust fund could be established, and the funds devoted to various interests of consumers generally.

As stated above, we believe that issues of this nature can be best addressed in the context of specific adjudications.

(Economic Stabilization Act of 1970, Pub. L. 92-210; Emergency Petroleum Allocation Act of 1973, Pub. L. 93-159, as amended, Pub. L. 93-511, Pub. L. 94-99, Pub. L. 94-133, Pub. L. 94-163, and Pub. L. 94-385; Federal Energy Administration Act of 1974, Pub. L. 93-275, as amended, Pub. L. 94-332, Pub. L. 94-385, Pub. L. 95-70, Pub. L. 95-91, Energy Policy and Conservation Act, Pub. L. 94-163, as amended, Pub. L. 94-385, Pub. L. 95-70; Department of Energy Organization Act, Pub. L. 95-91; E.O. 11790, 39 FR 23185; E.O. 12009, 42 FR 46267.)

In consideration of the foregoing, Part 205 of Chapter II, Title 10 of the Code of Federal Regulations, is amended as set forth below, effective February 9, 1979.

Issued in Washington, D.C. February 5, 1979.

MELVIN GOLDSTEIN,
Director,
Office of Hearings and Appeals.

1. The table of contents for Part 205 is amended by adding Subpart V, §§ 205.280 through 205.288, as follows:

* * * * *

Subpart V—Special Procedures for Distribution of Refunds

* * * * *

Sec.
205.280 Purpose and scope.
205.281 Petition for implementation of special refund procedures.
205.282 Evaluation of petition by the Office of Hearings and Appeals.
205.283 Applications for refund.
205.284 Processing of applications.
205.285 Effect of failure to file a timely application.
205.286 Limitations on amount of refunds.
205.287 Escrow accounts, segregated funds and other guarantees.
205.288 Interim and ancillary orders.

* * * * *

2. Sections 205.280 through 205.288 are added as follows:

Subpart V—Special Procedures for Distribution of Refunds

§ 205.280 Purpose and scope.

This Subpart establishes special procedures pursuant to which refunds may be made to injured persons in order to remedy the effects of a violation of the regulations of the Department of Energy. This Subpart shall be applicable to those situations in which the Department of Energy is unable to readily identify persons who are entitled to refunds specified in a Remedial Order, a Remedial Order for Immediate Compliance, an Order of Disallowance or a Consent Order, or to readily ascertain the amounts that such persons are entitled to receive.

§ 205.281 Petition for implementation of special refund procedures.

(a) At any time after the issuance of a Remedial Order (including for purposes of this Subpart a Remedial Order for Immediate Compliance and an Order of Disallowance), or a Consent Order, the Special Counsel of the Department of Energy, the ERA Office of Enforcement, or any other enforcement official of the Department of Energy may file with the Office of Hearings and Appeals a Petition for the Implementation of Special Refund Procedures.

(b) The Petition shall state that the person filing it has been unable readily either to identify the persons who are entitled to refunds to be remitted pursuant to a Remedial Order or a Consent Order or to ascertain the amounts of refunds that such persons are entitled to receive. The Petition shall request that the Office of Hearings and Appeals institute appropriate proceedings under this Subpart to distribute the funds referred to in the enforcement documents.

(c) The Petition shall contain a copy of each relevant enforcement document, shall be filed in duplicate, and shall meet the requirements of Section 205.9 of this Part.

§ 205.282 Evaluation of Petition by the Office of Hearings and Appeals.

(a) After considering the Petition, the Director of the Office of Hearings and Appeals or his designee shall issue a Proposed Decision and Order. The Proposed Decision and Order shall generally describe the nature of the particular refund proceeding and shall set forth the standards and procedures that the Office of Hearings and Appeals intends to apply in evaluating refund claims.

(b) The Proposed Decision and Order shall be published in the FEDERAL REGISTER together with a statement that any member of the public may submit written comments to the Office of Hearings and Appeals with respect to the matter. At least 30 days following publication in the FEDERAL REGISTER shall be provided for the submission of comments.

(c) After considering the comments submitted, the Director of the Office of Hearings and Appeals or his designee shall issue a final Decision and Order which shall govern the disposition of the refunds. The final Decision and Order shall also be published in the FEDERAL REGISTER.

(d) The final Decision and Order shall set forth the standards and procedures that will be used in evaluating individual Applications for Refunds and distributing the refund amount. Those standards and procedures shall be consistent with the provisions of this Subpart.

(e) In establishing standards and procedures for implementing refund distributions, the Office of Hearings and Appeals shall take into account the desirability of distributing the refunds in an efficient, effective and equitable manner and resolving to the maximum extent practicable all outstanding claims. In order to do so, the standards for evaluation of individual claims may be based upon appropriate presumptions.

§ 205.283 Applications for refund.

(a) Any person entitled to a refund pursuant to a final Decision and Order issued pursuant to Section 205.282 may file an Application for Refund. All Applications must be signed by the applicant and specify the DOE order to which they pertain. Any Application for a refund in excess of $100 must be file in duplicate, and a copy of that Application will be available for public inspection in the DOE Public Docket Room at 2000 M Street, N.W., Washington, D.C. Any applicant who believes that his Application contains confidential information must so indicate on the first page of his Application and submit two additional copies of his Application from which the information that the applicant claims is confidential has been deleted, together with a statement specifying why any such information is privileged or confidential.

(b) The contents of an Application for Refund shall be specified in the final Decision and Order referred to in Section 205.282(c). A filing deadline for Applications shall also be specified in the final Decision and Order, and shall be no less than 90 days after the publication of the Order in the FEDERAL REGISTER.

(c) Each Application shall be in writing and signed by the applicant, and shall indicate whether the applicant or any person acting on his instructions has filed or intends to file any other Application or claim of whatever nature regarding the matters at issue in the underlying enforcement proceeding. Each Application shall also include a sworn statement by the applicant that all information in his Application is true and correct to the best of his knowledge and belief.

§ 205.284 Processing of applications.

(a) The Director of the Office of Hearings and Appeals may appoint an administrator to evaluate Applications under guidelines established by the Office of Hearings and Appeals. The administrator, if he is not a federal government employee, may be compensated from the funds referred to in the Remedial Order or Consent Order. The administrator may design and distribute an optional application form for the convenience of the applicants.

(b) The Office of Hearings and Appeals or its designee may initiate an investigation of any statement made in an Application and may require verification of any document submitted in support of a claim. In evaluating an Application, the Office of Hearings and Appeals or its designee may solicit and consider information obtained from any source and may on its own initiative convene a hearing or conference, if it determines that a hearing or conference will advance its evaluation of an Application.

(c) The Director of the Office of Hearings and Appeals or his designee shall conduct any hearing or conference convened with respect to an Application for Refund and shall specify the time and place for the hearing or conference and notify the applicant. The official conducting the hearing may administer oaths and affirmations, rule on the presentation of information, receive relevant information, dispose of procedural requests, determine the format of the hearing and otherwise regulate the course of the hearing. The provisions of § 205.8 of this Part which relate to subpoenas and witness fees shall apply to any hearing convened with respect to an application for refund, except that § 205.8(h) (2), (3) and (4) shall not apply.

(d) Upon consideration of an Application and other relevant information received during the course of a refund proceeding, the Director of the Office of Hearings and Appeals or his designee shall issue an order granting or denying the Application. The order shall contain a concise statement of the relevant facts and the legal basis for the order. A copy of the order, with such modification as is necessary to ensure the confidentiality of information protected from public disclosure by 18 U.S.C. 1905, may be obtained upon request by an applicant or any other person who participated in the proceeding.

§ 205.285 Effect of failure to file a timely application.

An Application for Refund must be filed no later than the date that the Office of Hearings and Appeals establishes pursuant to § 205.283(b). Any Application that is not filed on a timely basis may be summarily dismissed. The Office of Hearings and Appeals or its designee may, however, grant extensions of time for good cause shown. Any request for an extension of time must generally be submitted in writing prior to the deadline.

§ 205.286 Limitations on amount of refunds.

(a) The aggregate amount of all refunds approved by the Office of Hearings and Appeals or its designee in a given case shall not exceed the amount to be remitted pursuant to the relevant DOE enforcement order, plus any accumulated interest, reduced by the amount of any administrative costs approved by the Office of Hearings and Appeals. In the event that the aggregate amount of approved claims exceeds the aggregate amount of funds specified above, the Office of Hearings and Appeals may make refunds on a pro rata basis. The Office of Hearings and Appeals may delay payment of any refunds until all Applications have been processed.

(b) The Office of Hearings and Appeals may decline to consider Applications for refund amounts that, in view of the direct administrative costs involved, are too small to warrant individual consideration.

§ 205.287 Escrow accounts, segregated funds and other guarantees.

(a) In implementing the refund procedures specified in this Subpart, the Director of the Office of Hearings and Appeals or his designee shall issue an order providing for the custody of the funds to be tendered pursuant to the Remedial Order or Consent Order. This Order may require placement of the funds in an appropriate interest-bearing escrow account, retention of the funds by the firm in a segregated account under such terms and conditions as are specified by the DOE, or the posting of a sufficient bond or other guarantee to ensure payment.

(b) All costs and charges approved by the Office of Hearings and Appeals and incurred in connection with the processing of Applications for Refund or incurred by an escrow agent shall be paid from the amount of funds, including any accumulated interest, to be remitted pursuant to the Remedial Order or Consent Order.

(c) After the expenses referred to in subsection (b) have been satisfied and refunds distributed to successful applicants, any remaining funds remitted pursuant to the Remedial Order or Consent Order shall be deposited in the United States Treasury or distributed in any other manner specified in the Decision and Order referred to in Section 205.282(c).

(d) Funds contained in an escrow account, segregated fund, or guaranteed by other approved means shall be disbursed only upon written order of the Office of Hearings and Appeals.

§ 205.288 Interim and ancillary orders.

The Director of the Office of Hearings and Appeals or his designee may issue any interim or ancillary orders, or make any rulings or determinations to ensure that refund proceedings, including the actions of the administrator and the custodian of the funds involved in a refund proceeding, are conducted in an appropriate manner and are not unduly delayed.

[FR Doc. 79-4466 Filed 2-6-79; 2:28 pm]

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FRIDAY, FEBRUARY 9, 1979

PART VI

THE NATIONAL ARCHIVES OF THE UNITED STATES
1934

OFFICE OF PERSONNEL MANAGEMENT

■

ANTIDISCRIMINATION POLICY: SPECIAL FEDERAL RECRUITMENT PROGRAM

[6325-01-M]

OFFICE OF PERSONNEL MANAGEMENT

[5 CFR Part 720]

ANTIDISCRIMINATION POLICY: SPECIAL FEDERAL RECRUITMENT PROGRAM

AGENCY: Office of Personnel Management.

ACTION: Proposed rulemaking.

SUMMARY: The Office of Personnel Management is proposing regulations to implement a special recruitment program, as required under 5 U.S.C. 7201, and in accordance with program guidelines established by the Equal Employment Opportunity Commission, which appear as an Appendix to this Part. These regulations are intended to provide a broad framework to ensure uniform, coherent and effective standards for the enforcement of government wide recruitment policies and programs, designed to eliminate the underrepresentation of minorities and women in Civil Service employment.

DATES: Comments must be received on or before March 21, 1979.

ADDRESS: Send written comments to the Director, Office of Affirmative Employment Programs, Office of Personnel Management, 1900 E Street N.W., Washington, D.C. 20415.

FOR FURTHER INFORMATION CONTACT:

Tom Dausch, 202-254-9470.

SUPPLEMENTARY INFORMATION: These regulations will be supplemented by further guidance developed by the Office of Personnel Management and issued through the Federal Personnel Manual system. Initial guidance will be issued at the same time final rules are published in the FEDERAL REGISTER.

The Office of Personnel Management has determined that it is not possible to give the public 60 days to comment on these proposed rules. The Civil Service Reform Act of 1978 requires publication of final regulations implementing the minority recruitment program, provided for in these proposed rules, not later than April 12, 1979. Within this constraint, the Office can provide only 40 days for public comment. The official who made this determination is Jule M. Sugarman, Deputy Director, Office of Personnel Management.

Section 7201 of title 5, U.S.C., referred to above was formerly section 7151. It was redesignated as section 7201 by section 703(a)(1) of the Civil Service Reform Act of 1978.

The Office of Personnel Management will hold a public hearing on these proposed rules at 2 p.m., Monday, February 26, 1979. Persons wishing to present testimony should contact Tom Dausch (202-254-9470) to be assigned a specific time on the agenda. The hearing will be held in Room 5H09, 1900 E Street N.W., Washington, D.C.

Accordingly, the Office of Personnel Management is proposing to add 5 CFR Part 720, as set forth below.

OFFICE OF PERSONNEL MANAGEMENT,
JAMES C. SPRY,
Special Assistant to the Director.

PART 720—ANTIDISCRIMINATION POLICY: SPECIAL RECRUITMENT PROGRAM

Subpart A—Principal Statutory Requirements

Sec.
720.101 Principal Statutory Requirements

Subpart B—Special Recruitment Program

720.201 Regulatory requirements.
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720.204 Agency programs.
720.205 Agency plans.
720.206 Selection guidelines.
720.207 Reports.

AUTHORITY: 5 U.S.C. 7201.

Subpart A—Principal Statutory Requirements

§ 720.101 Principal statutory requirements.

This subpart incorporates the statutory antidiscrimination policy and the requirements for establishing and conducting a special recruitment program within the Federal civil service. The policy in 5 U.S.C. 7201(b) reads as follows: "It is the policy of the United States to insure equal employment opportunities for employees without discrimination because of race, color, religion, sex, or national origin. The President shall use his existing authority to carry out this policy."

5 U.S.C. 7201(c) requires under regulations prescribed by the Office of Personnel Management:

> (1) that each Executive agency conduct a continuing program for the recruitment of members of minorities for positions in the agency to carry out the [anti-discrimination] policy set forth in subsection (b) in a manner designed to eliminate underrepresentation of minorities in the various categories of civil service employment within the Federal service, with special efforts directed at recruiting in minority communities, in educational institutions, and from other sources from which minorities can be recruited; and
>
> (2) that the Office conduct a continuing program of—
>
> (A) assistance to agencies in carrying out programs under paragraph (1) of this subsection; and
>
> (B) evaluation and oversight of such recruitment programs to determine their effectiveness in eliminating such minority underrepresentation.

This subpart is consistent with title VII of the Civil Rights Act of 1964, as amended, 42 U.S.C. 2000 *et seq.*

Subpart B—Special Recruitment Program

§ 720.201 Regulatory requirements.

This subpart contains the regulations of the Office of Personnel Management which implement the above provisions of title 5, United States Code, and are prescribed by the Office under authority of 5 U.S.C. 7201.

§ 720.202 Definitions.

For the purposes of this subpart:

(a) "underrepresentation" means a situation in which the number of women or members of a minority group within a category of civil service employment constitutes a lower percentage of the total number of employees within the employment category than the percentage women or the minority constitutes within the civilian labor force of the United States.

(b) "Category of civil service employment" means such groupings of Federal jobs by grades, pay systems and/or occupations as the Office or Personnel Mangagment deems appropriate.

(c) "Minority" refers only to those groups classified as "minority" for the purpose of data collection by the Office of Personnel Management and the Equal Employment Opportunity Commission in furtherance of Federal equal employment opportunity policies. Women include majority as well as minority women.

(d) "Civilian labor force" (CLF) includes all persons 16 years of age and over, except those in the armed forces, who are employed or who are unemployed and seeking work. CLF data are defined by the Bureau of the Census and the Bureau of Labor Statistics and are reported in the most recent decennial or mid-decade census, or current population survey, under Title 13 of the United States Code or other recognized government-conducted survey.

(e) "Recruitment" means the total process by which the Federal government and the Federal agencies locate, identify and assist in the employment or qualified or qualifiable applicants from underrepresented groups for job openings in categories of employment where underrepresentation has been determined and includes both internal placement and external recruitment actions.

(f) "Applicant pool" means all types of listings from which selections may be made, including (but not limited to) promotion lists, competitive certificates and inventories of eligibles, applicant supply files, and lists of eligibles for certain noncompetitive appointments.

§ 720.203 Responsibilities of the Office of Personnel Management.

(a) The Office of Personnel Management will provide appropriate data to assist Federal agencies in making determinations of underrepresentation. The process for making such determinations is described in the Appendix to this Part. The Office will develop and publish more specific criteria for statistical measurements to be used by individual agencies, and will develop further guidance on—

(1) agency employment statistics and civilian labor force statistics to be used is making determinations of underrepresentation, on a national, regional or other geographical basis as appropriate;

(2) the nature, size and location of agency components for which determinations and recruitment programs shall be developed;

(3) groupings of grades and/or other occupational categories to be used in implementing agency programs; and

(4) other factors which may be considered by the agency, in consultation with Office of Personnel Management, to make determinations of underrepresentation and to develop recruitment programs focused on specific occupational categories.

(b) The Office will assist agencies in carrying out their programs by—

(1) identifying major recruitment sources of women and members of minority groups and providing guidance on internal placement and external recruitment activities directed toward the solution of specific underrepresentation problems;

(2) identifying occupational categories and job series for which expanded *External* recruitment efforts are most appropriate, and those for which expanded and innovative *internal* recruitment is appropriate;

(3) supplementing agency recruitment efforts, utilizing existing network for dissemination of job information, and arranging the participation of minority group and women's organizations where practicable; and

(4) providing such other support, on agency request, as the Office deems appropriate.

(c) The Office will monitor and, in conjunction with the personnel management evaluation program of the Office, evaluate agency programs to determine their effectiveness in eliminating underrepresentation;

(d) The Office will conduct a continuing program of guidance and instruction to supplement these regulations.

(e) The Office will coordinate further activities to implement special recruitment programs under this subpart with the Equal Employment Opportunity Commission consistent with law, Executive Order 12067, and Reorganization Plan No. 1 of 1978.

§ 720.204 Agency programs.

(a) Each Executive agency, as defined in 5 U.S.C. 105, must conduct a continuing program for the recruitment of minorities and women for positions in the agency to carry out the policy of the United States to insure equal employment opportunities without discrimination because of race, color, religion, sex or national origin.

(b) Programs established under this subpart must be designed to cover recruitment for all positions, including part-time and temporary positions, in any category of civil service employment in the competitive, excepted, or Senior Executive Service where underrepresentation has been determined in the agency. On a determination by the Office of Personnel Management that additional component plans are needed to implement an agency's program effectively, the Office will instruct the agency to develop additional plans. Agencies must comply with such instructions.

(c) To the extent possible, agencies must determine whether the applicant pools used in filling jobs in a category of employment where underrepresentation exists include sufficient candidates from groups underrepresented in such category. Where an applicant pool does not include sufficient numbers of members of underrepresented groups, agencies must consider:

(1) Expansion or other redirection of their recruitment activitiies in ways designed to increase the number of candidates from underrepresented groups in that applicant pool;

(2) Use of selection methods involving other applicant pools which include sufficient numbers of underrepresented groups;

(3) Notifying and consulting with the office responsible for administering that applicant pool, and requesting its consideration of reopening application receipt in support of expanded recruitment activities; and

(4) Taking such other action which will contribute to the elimination of underrepresentation in the category of employment involved.

(d) Agencies must notify and seek advice and assistance from the Office of Personnel Management in cases where their special recruitment programs are not making measurable progress in eliminating identified underrepresentation in the agency work force.

§ 720.205 Agency plans.

(a) Each agency must have an up-to-date special recruitment program plan covering recruitment for positions at various organizational levels and geographic locations within the agency. Such plans must be available for review in appropriate offices of the agency and must be submitted to the Office of Personnel management on request. Such plans may be incorporated in the agency's equal employment opportunity plans required under section 717 of the Civil Rights Act of 1964, as amended, pursuant to regulations and instructions of the Equal Employment Opportunity Commission, provided they are separable parts of those plans for purposes of review by and submission to the Office of Personnel Management.

(b) Agency plans must include annual specific determinations of underrepresentation and must be accompanied by quantifiable indices by which progress toward eliminating underrepresentation can be measured.

(c) Where an agency or agency component is located in a geographical area where the percentage of underrepresented groups in the area civilian labor force is higher than their percentage in the national labor force, the agency or component must base its plans on the higher level of representation in the relevant civilian labor force.

(d) Where an agency or agency component is located in a geographical area where participation of a particular underrepresented group is significantly lower than its participation in the national labor force, the agency or component may, in consultation with the Office of Personnel Management, use the lower percentage in determining underrepresentation. An agency may not use a figure lower than the relevant regional or nationwide labor force percentage where recruitment on a regional or nationwide basis is feasible for particular categories of employment. Factors such as size of the agency or unit, nature of jobs and their wage or pay scale may be considered in focusing recruitment for various job categories.

(e) In addition to the underrepresentation determinations described in paragraphs (b), (c) and (d) of this section, agency plans must, at a minimum, include an assessment of:

(1) The number of jobs in each category to be filled in each of the next two years;

(2) The numbers estimated to be filled through;

(a) Internal recruitment only; and

(b) External recruitment or a combination of internal and external recruitment;

(3) Recruitment methods to be used;

(4) The size of the internal pool available to fill jobs with careful attention to currently underutilized personnel;

(5) Training and job development programs used to prepare employees for these job catergories;

(6) Jobs which should be redesigned to improve opportunities for minorities and women including jobs requiring bilingual or bicultural capabilities or not requiring English fluency;

(7) Priorities;

(8) Help needed from OPM.

(f) Special recruitment program plans must be consistent with agency Upward Mobility program plans and should be developed with full consideration of the agency's overall recruiting and staffing planning objectives.

(g) Plans required under this subpart must be developed for the headquarters level of each Executive agency not later than July 1, 1979. Plans must be developed for other agency components not later than October 1, 1979.

§ 720.206 Selection guidelines.

All selection processes must be consistent with the *Uniform Guidelines on Employee Selection Procedures* (43 FR 38290; August 25, 1978) and the instructions of the Office of Personnel Management on implementing those Guidelines.

§ 720.207 Reports.

Not later than November 1 of each year, agencies must submit an annual report on their special recruitment programs to the Office of Personnel Management, in a form prescribed by the Office. The Office may require submission of any additional reports it considers necessary in carrying out its responsibilities under this subpart.

APPENDIX

Guidelines for the Development of a Federal Recruitment Program to Implement 5 U.S.C. Section 7201, as amended [1]

I. *Background Information*

A. In 1964 the Congress adopted a basic anti-discrimination policy for Federal employment, stating:

"It is the policy of the United States to insure equal employment opportunities for employees without discrimination because of race, color, religion, sex or national origin." [5 U.S.C. 7151] [2]

In 1978, Congress reaffirmed and amended this policy as part of the Civil Service Reform Act of 1978 [Sec. 310 of P.L. 95-454], requiring immediate development of a recruitment program designed to eliminate underrepresentation of minority groups in specific Federal job categories. Section 310 directs the Equal Employment Opportunity Commission:

1. to establish Guidelines proposed to be used for a program designed to eliminate such underrepresentation;

2. to make, in consultation with OPM, initial determinations of underrepresentation which are proposed to be used in this program; and

3. to transmit the determinations made under (2) above to the Executive Agencies, the Office of Personnel Management and the Congress, within 60 days of enactment.

The Office of Personnel Management (OPM) [3] is directed by this amendment:

1. to issue regulations to implement a program under EEOC Guidelines within 180 days after enactment, which shall provide that Executive agencies conduct continuing recruitment programs to carry out the antidiscrimination policy in a manner designed to eliminate underrepresentation in identified categories of civil service;

2. to provide continuing assistance to Federal agencies in carrying out such programs;

3. to conduct a continuing program of evaluation and oversight to determine the effectiveness of such programs;

4. to establish occupational, professional and other groupings within which appropriate recruitment will occur, based upon the determinations of underrepresentation pursuant to these Guidelines; and

5. to report annually to the Congress on this programs; not later than January 31 of each year.

Congress further directed that the recruitment program must be administered consistent with provisions of Reorganization Plan No. 1 of 1978.[4]

B. In framing these Guidelines and making its initial determinations of underrepresentation, the Equal Employment Opportunity Commission (Commission) is acting pursuant to its obligations and authority under 5 U.S.C. 7201, as amended; Section 717 of Title VII of the Civil Rights Act of 1964, as amended; Reorganization Plan No. 1 of 1978 (issued pursuant to 5 U.S.C. 901 et seq.) and Executive Order 12067, issued under this Plan (43 FR 28967, June 30, 1978). This Commission must develop and/or ensure the development of uniform, coherent and effective standards for administration and enforcement of all Federal anti-discrimination and equal employment opportunity laws, policies and programs, and to ensure the elimination of duplication and inconsistency in such programs.

C. A review of the legislative history of Federal equal employment opportunity policy provides further guidance on the scope and nature of determinations and guidelines to be issued for this program.

The basic policy statement on Federal equal employment policy enacted by the Congress in 1964 (5 U.S.C. § 7151, redesignated as § 7201) gave the President authority for implementation.

Executive Order 11246 (1966), expanded and superseded by Executive Order 11478 (1969) with respect to Federal employment, required Federal agencies to develop affirmative action programs designed to eliminate discrimination and assure equal employment opportunity.

In 1972, Congress found that serious discrimination persisted in Federal employment. It found that minorities and women were significantly absent at higher levels in Federal employment, and severely underrepresented in some Federal agencies and in some geographic areas where they constituted significant proportions of the population. After a detailed review of Federal employment practices and statistics, the Congress concluded that:

> "the disproportionate distribution of minorities and women throughout the Federal bureaucracy and their exclusion from higher level policy-making and supervisory positions indicates the government's failure to pursue its policy of equal employment opportunity".[5]

Congress found that this exclusion resulted from overt and "systemic" discriminatory practices.

These findings, among others, led Congress to extend Title VII coverage to Federal employment in Section 717 of the Equal Employment Opportunity Act of 1972.

The Civil Service Reform Act of 1978 clearly states, for the first time, that "it is the policy of the United States . . . to provide . . . a Federal workforce reflective of the Nation's diversity. . . ." [6] The Act establishes in law as the first merit principle that recruitment should be designed to achieve a Federal workforce from "all segments of society." Among the personnel practices prohibited by the Act is discrimination prohibited under Title VII of the Civil Rights Act of 1964, as amended.[7] Therefore, the Civil Service Reform Act and its directive for a special recruitment program clearly unite requirements for basic Federal personnel policy with requirements for Federal equal employment policy.

It is clear from the legislative history of Federal equal employment policy that the legal standards of Title VII must be applied to Federal employment. Thus, guidelines for a recruitment program designed to eliminate underrepresentation in Federal agency employment must be developed consistent with the framework of affirmative action programs.

D. Guided by the review of the legislative history, and the responsibilities and authorities cited in I(B) above, the Commission is issuing these Guidelines to provide a framework for development of recruitment program regulations by OPM. The Commission may later provide more detailed guidance, through consultation with OPM, designed to achieve an overall Federal equal employment program which is consistent with, and which effectively implements Title VII requirements.

II. *Initial Determinations of Underrepresentation*

A. Pursuant to Section 7201, underrepresentation exists when the percentages of minority and female Federal employees in specific grades are less than their percentages in the civilian labor force. "Minority" refers only to those groups classified as "minority" for the purpose of data collection by the Commission and OPM in furtherance of Federal equal employment opportunity policies. The civilian labor force includes all persons 16 years of age and over except the armed forces, who are employed or seeking employment. Such a determination of underrepresentation is designated in these Guidelines as "below the Section 7201 level".

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[1] This Section originally was Section 701(b) (2nd Proviso) of the Civil Rights Act of 1964 (P.L. 88-352, July 2, 1964), codified as 5 U.S.C. § 7151. Section 7151 was further amended by Section 310 of the Civil Service Reform Act of 1978. This Act also redesignated Section 7151 as Section 7201, effective January 11, 1979. [Sec. 703(a)(1) of the Act.]

[2] *Ibid.*

[3] This Office was created by Reorganization Plan No. 2, issued pursuant to 5 USC 901 *et seq.* It will assume personnel management functions of the present U.S. Civil Service Commission on January 1, 1979.

[4] *Conference Report on Civil Service Reform Act of 1978*, No. 95-1272, p. 145.

[5] *Legislative History of the Equal Employment Opportunity Act of 1972*, p. 83. See pp. 82-86 and 421-425 for Congressional Findings.

[6] Civil Service Reform Act of 1978, Section 3.

[7] Section 101(a) of the Act, 5 USC 2301(b)(1) and 2302(b)(1)(A), as amended.

B. The Commission has examined existing data on Federal employment and the civilian labor force and has made initial determinations of underrepresentation of groups by race, national origin and sex in specific grades of the major Federal pay systems, under the legal authorities cited in I(B), above.

C. The Table which follows shows the grades at which the percentage of each group in the Federal workforce falls below its percentage in the civilian labor force. The table covers four major Federal pay systems which account for more than 95 percent of Federal employees, including the Postal Service.[a]

Sex/Race/ National Origin	Percent of Civilian Labor Force	Grades Below the 7201 Level			
		Gen Sched and Equivalent	Non-spvsry Regular Wage	Leader Regular Wage	Spvsry Regular Wage
Number of Grades	--	18	15	15	19
Women	41.0	9+	2+	2+	All
White	34.0	9+	All	All	All
Black	4.6	11+	5+	5+	5+
Hispanic	1.7	6+	All	2,4+	All
AsAm/PacIs	.6	1,10+	2+	2+	All
AmIn/AlNa	.1	13+	9+	1,5,6,9+	4,9,11+
Minority Men	8.9	3+	13+	11,14+	13+
Black	5.3	4,6+	12+	11+	11+
Hispanic	2.8	All	14+	1,15	13-15,17+
AsAm/PacIs	.7	1-8,10,16+	9,14+	1,3,8,9,12+	1,3,8,9,17+
AmIn/AlNa	.2	None	14	1,13+	17+

NOTES.—1. Comparable data for white men shown below are for reference. White Men ——50.1 ——1-8 ——1-4 ——1-5 ——1-3

2. +means "and all grades above".

3. Detail may not add to total because of rounding.

SOURCES: Civilian Labor Force information based on data from the Current Population Survey, Bureau of Labor Statistics, *Employment and earnings*, Vol. 25, No. 1, January 1978.

Information on grades below 7201 level based on Civil Service Commission data from *Equal Opportunity Statistics*, November 20, 1977 (publication in process).

D. The initial determinations of underrepresentation were based upon average 1977 labor force data from the Current Population Survey published by the Bureau of Labor Statistics (*Employment and Earnings*, January 1978), and 1977 Federal workforce statistics from *Equal Employment Opportunity Statistics* (publication in process).

The labor force figures are published annually; the Federal employment statistics semiannually. These measures, and any modifications agreed upon by the Commission and OPM, will be updated annually.

Regional and area Federal employment statistics are available from the Civil Service Commission (as of January, 1979 the OPM). The latest reliable local labor force data by race, national origin, and sex is from the 1970 Census. The Commission and OPM will consult on appropriate labor force measures to be used for local analyses.

E. These initial determinations are based upon a preliminary analysis of the data, and may be further refined by the Commission, in consultation with OPM, to include geographic and occupational underrepresentation. It is further recognized that for the purpose of developing regulations, the OPM, in consultation with the Commission, will undertake more specific analyses of data use and applicability necessary to develop programs for the Federal agencies pursuant to Section 7201(a)(2)(C). The OPM may establish criteria for grouping agencies, for treating agency components separately and for grouping grades and pay systems. In addition, OPM may study other available data sources and use other techniques to assure statistically significant findings of underrepresentation. Based upon these studies, OPM may make recommendations to the Commission for future determinations of underrepresentation.

III. *Procedures for Developing Recruitment Programs*

A. The program developed and implemented on OPM under Section 7201 should be designed to result in applicant pools with sufficient qualified members of underrepresented groups. Where the supply of such groups initially appears to be low for specific occupational, professional and other groupings, the program should be designed so that recruitment efforts stimulate interest of underrepresented groups in those occupations where there are realistic projections of Federal employment opportunities.

B. In establishing groupings for determining underrepresentation, OPM should utilize broad occupational categories to the extent possible.

C. The Commission recognizes that OPM's regulations should allow flexibility in development and design of each Federal agency's recruitment program. However, all statistical comparisons must be computed in a manner consistent with the method utilized in II C.

The Commission recommends that each agency program meet several minimum requirements. The program should be based on a determination of underrepresentation in the agency's total workforce, in appropriate geographic components; by grade; by broad occupational, professional and other groupings in comparison to the national civilian labor force, according to the criteria developed by OPM under these guidelines.

Where an agency or major component thereof (such as Headquarters and Regional Offices) is located in a geographic area where the percentage of underrepresented groups in the area civilian labor force is *higher* than their percentage in the national labor force, the agency or appropriate component should conduct its recruitment program for that component on the basis of the higher level of representation in the relevant civilian labor force.

Where an agency or major component thereof is located in a geographic area where participation of a particular underrepresented group in the area labor force is significantly *lower* than their participation in the national labor force, such agency or component may, in consultation with OPM, utilize the lower applicable civilian labor force percentage in determining underrepresentation for the component. In no event, however, may the agency utilize a figure lower than the regional or nationwide Section 7201 level for positions where recruitment on a regional or nationwide basis is feasible. Factors such as size of the ageny or unit, nature of jobs and their wage or pay scale may be considered to set goals and to justify a recruitment program focused on various job categories.

IV. Scope of Actions Covered by This Program

A. "Recruitment" under this program is defined as the total process by which the Federal government and the Federal agencies locate, identify and assist in the employment of qualified or qualifiable applicants from underrepresented groups for job openings in grades and in occupational categories where underrepresentation has been determined. This process should include innovative internal, as well as targeted external, recruitment actions.

B. Prior to developing regulations, the Office should review data on personnel actions and other information, to identify those job categories for which internal recruitment and external recruitment is most appropriate and feasible, and to provide guidance to the Federal agencies for targeting their recruitment programs, based on this information. OPM should advise all agencies that all job qualifications, personnel procedures and criteria must be consistent with the *Uniform Guidelines on Employee Selection Procedures* (43 FR 38,290 August 25, 1978) OPM should consider the following in providing guidance to agencies:

1. *External Recruitment Programs*

a. Such programs should focus on grade levels and/or job categories where underrepresentation has been identified and where external recruitment realistically will result in hiring opportunities.

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[a] The initial determinations are based on data for only those agencies covered by the Civil Service Reform Act of 1978. The Commission will make subsequent determinations on other agencies covered by Title VII, e.g. the U.S. Postal Service, TVA, Central Intelligence Agency, Federal Reserve Board.

Recruitment programs also should include a review of job functions to determine those jobs that may be better performed by persons who are bicultural and who have bilingual capabilities, and those jobs that can be performed by persons not fluent in English.

b. Where eligibility lists are used for filling jobs, it is recommended that the regulations require, an analysis by race, national origin and sex, to determine whether the list contains sufficient candidates from groups underrepresented in those jobs. OPM should require that where the list does not have such representation, expanded recruitment procedures be designed to assure that members of underrepresented groups qualified to perform the job(s) are included in the pool of applicants from which the selecting official makes the selection. Such expanded recruitment procedures may include additional external recruitment or various actions (such as described in 2. below) to reach members of these groups within the Federal workforce who are qualified or qualifiable for these jobs.

2. *Internal Recruitment Programs*

a. Internal recruitment programs should be designed by agencies to identify currently qualified or qualifiable persons for job categories and series where underrepresention prevails, according to the national determinations and the determinations made by each agency under these guidelines.

b. Further, OPM should work with Federal agencies to develop effective mechanisms for providing information on Federal job opportunities, targeted to reach Federal employees from underrepresented groups in all agencies in order to broaden the applicant pool.

V. *Consistency with Reorganization Plan No. 1 of 1978*

A. The Office shall develop regulations and implement this program in consultation with the Commission and with other affected agencies in such manner that their recruitment programs may be incorporated as a consistent and effective element of the agencies' national and regional equal employment opportunity plans. Each agency is required to implement such plans under the direction and guidance of the Commission in accordance with Section 717 of Title VII of the Civil Rights Act of 1964, as amended, and Executive Order 12067.

B. Procedures shall be established by OPM and the Commission to assure appropriate consultation in development of the regulations.

C. Pursuant to Reorganization Plan No. 1 and to Executive Order 12067 issued thereunder, the Commission will establish procedures to provide appropriate consultation and review of the program on a continuing basis, to maximize its effectiveness and eliminate any duplication, conflict or inconsistency in requirements for equal opportunity programs in the Federal agencies.

D. In preparing its annual report to the Congress pursuant to the Act, OPM should do so in consultation with the Commission.

NOTE.—Although the Equal Employment Opportunity Commission (EEOC) and the Office of Personnel Management (OPM) have consulted during the drafting of these proposed OPM regulations for a Federal Recruitment Program, as required by 5 U.S.C. 7201 and E.O. 12067, EEOC has not approved these regulations. The EEOC has further changes to propose, and the Commission will not consider these regulations for formal approval until comments from the public and other Federal agencies have been examined.

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BOOK 2 OF 2 BOOKS

FRIDAY, FEBRUARY 9, 1979

PART VII

DEPARTMENT OF LABOR

Occupational Safety and Health Administration

■

29 CFR PART 1926

Safety and Health Regulations for Construction with

29 CFR PART 1910

General Industry Safety and Health Regulations Identified as Applicable to Construction

[4510-26-M]

Title 29—Labor

CHAPTER XVII—OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION, DEPARTMENT OF LABOR

PART 1926—OCCUPATIONAL SAFETY AND HEALTH REGULATIONS FOR CONSTRUCTION

PART 1910—OCCUPATIONAL SAFETY AND HEALTH STANDARDS

Identification of General Industry Safety and Health Standards (29 CFR Part 1910) Applicable to Construction Work

AGENCY: Occupational Safety and Health Administration (OSHA).

ACTION: Notice of Enforcement Policy and Republication of Standards.

SUMMARY: To provide a better public understanding and awareness of OSHA's enforcement policy regarding hazards in construction, the agency is reprinting in the FEDERAL REGISTER the entire text of 29 CFR Part 1926 (Safety and Health Regulations for Construction) together with certain General Industry Occupational Safety and Health Standards (29 CFR Part 1910) which have been identified as also applicable to construction work.

For some time, elements of both labor and management within the construction industry have petitioned the agency to develop a single set of OSHA regulations for the exclusive use of that industry. In response to the concerns of the affected parties and the need for a uniform enforcement policy within the agency, OSHA prepared this document with the advice of the Advisory Committee on Construction Safety and Health.

FOR FURTHER INFORMATION CONTACT:

Donald A. Shay, Director, Office of Compliance Programming, U.S. Department of Labor, OSHA, 200 Constitution Avenue NW., Room N3608, Washington, D.C. 20210, telephone: 202-523-8041.

SUPPLEMENTARY INFORMATION: The identification of general industry standards applicable to construction represents the first step in the agency's long range program to modify 29 CFR Part 1926 into a single comprehensive set of OSHA regulations for use on construction worksites. This document should not be construed as representing a permanent recodification since permanent recodification or so-called "verticalization" will be achieved in conjunction with the ongoing comprehensive revisions of the various subparts of part 1926.

To facilitate uniform enforcement, OSHA has issued Program Directive No. 200-88, Identification of General Industry Safety and Health Standards (29 CFR Part 1910) Applicable to Construction Work, outlining the agency's policy to its field personnel. This Program Directive will be made available to the public, and may be obtained from any OSHA Area or Regional Office, or by writing directly to the Office of Field Coordination, Occupational Safety and Health Administration, 3d and Constitution Avenue, Washington, D.C. 20210.

While every effort has been made to identify those part 1910 standards (General Industry) which are most likely to be applicable to construction work, it is to be recognized that there may be others which, under some circumstances, also may be applicable. A special procedure has been established by the National Office to review such situations should they occur.

If enforcement experience indicates that other part 1910 standards are applicable to construction but which have not been previously identified, the listing of such standards will be modified accordingly.

Therefore, in the public interest, OSHA is publishing the following:

Part 1926/1910 Construction Standards. An index and text of selected General Industry Safety and Health Standards (29 CFR Part 1910) identified as applicable to construction work placed with the text of relevant provisions of 29 CFR Part 1926 (Safety and Health Regulations for Construction); this includes all health standards from subpart Z of part 1910 except for the exposure limits contained in Tables Z-1, Z-2, and Z-3 of 29 CFR 1910.1000.

Supplement I. The text of other OSHA standards incorporated by reference in those part 1910 standards identified as applicable to construction work.

Supplement II. A table of "Threshold Limit Values of Airborne Contaminants for 1970" referenced in 29 CFR 1926.55(a) with administrative changes in footnotes and modifications to reflect subsequent OSHA rulemakings (health standards) issued pursuant to section 6(b) of the Act.

Supplement III. A list of standards (other Federal agencies, ANSI, NEC, NFPA, etc.) incorporated by reference in part 1926 and in those part 1910 standards identified as applicable to construction work.

Supplement IV. List of addresses and telephone numbers (where appropriate) of Federal agencies, private organizations, and other sources of standards referenced in OSHA standards applicable to construction work.

Signed this 17th day of October 1978, in Washington, D.C.

EULA BINGHAM,
Assistant Secretary of Labor.

PART 1926—SAFETY AND HEALTH REGULATIONS FOR CONSTRUCTION [1]

Subpart A—General

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1926.2 Variances from safety and health standards.
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1926.4 Rules of practice for administrative adjudications for enforcement of safety and health standards.

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  1910.19 Special provisions for air contaminants.

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[1] Portions of the listed part 1910 standards have been identified as applicable to construction.

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[1] Portions of the listed Part 1910 standards have been identified as applicable to construction.

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1910.141(e) Change rooms.
1910.145(d)(4) Caution signs.
1910.184(d) Inspections (slings).

Supplement II.—Table of "Threshold Limit Values of Airborne Contaminants for 1970" referenced in 29 CFR 1926.55(a) with administrative changes in footnotes and modifications to reflect subsequent OSHA rulemakings (Health Standards) issued pursuant to section 6(b) of the Act.

Supplement III.—List of standards (other Federal agency, ANSI, NEC, NFPA, etc.) incorporated by reference to those part 1910 standards identified as applicable to construction work.

Private standards—setting organizations.
Federal agencies.
Other governmental agencies.

Supplement IV.—List of addresses and telephone numbers (where appropriate) of Federal agencies, Private organizations, and other sources of standards referenced in OSHA standards applicable to construction work.

Addresses of standards organizations referenced.

Addresses of Federal agencies referenced.

AUTHORITY: Secs. 4(b)(2), 6, 8, 84 Stat. 1592, 1593, 1596, 1599 (29 U.S.C. 653, 655, 657); Sec. 107, 83 Stat. 96 (40 U.S.C. 333); Secretary of Labor's Order 8-76 (41 FR 25059); 29 CFR Part 1911;

PART 1926—SAFETY AND HEALTH REGULATIONS FOR CONSTRUCTION

Subpart A—General

1926.1 Purpose and scope.
1926.2 Variances from safety and health standards.
1926.3 Inspections—right of entry.
1926.4 Rules of practice for administrative adjudications for enforcement of safety and health standards.

§ 1926.1 Purpose and scope.

(a) This part sets forth the safety and health standards promulgated by the Secretary of Labor under section 107 of the Contract Work Hours and Safety Standards Act. The standards are published in subpart C of this part and following subparts.

(b) Subpart B of this part contains statements of general policy and interpretations of section 107 of the Contract Work Hours and Safety Standards Act having general applicability.

§1926.2 Variances from safety and health standards.

(a) Variances from standards which are, or may be, published in this part may be granted under the same circumstances whereunder variances may be granted under section 6(b)(A) or 6(d) of the Williams-Steiger Occupational Safety and Health Act of 1970 (29 U.S.C. 65). The procedures for the granting of variances and for related relief under this part are those published in part 1905 of this title.

(b) Any requests for variances under this section shall also be considered requests for variances under the Williams-Steiger Occupational Safety and Health Act of 1970, and any requests for variances under Williams-Steiger Occupational Safety and Health Act with respect to construction safety or health standards shall be considered to be also variances under the Construction Safety Act. Any variance from a construction safety or health standard which is contained in this part and which is incorporated by reference in part 1910 of this title shall be deemed a variance from the standard under both the Construction Safety Act and the Williams-Steiger Occupational Safety and Health Act of 1970.

§ 1926.3 Inspections—Right of entry.

(a) It shall be a condition of each contract which is subject to section 107 of the Contract Work Hours and Safety Standards Act that the Secretary of Labor or any authorized representative shall have a right of entry to any site of contract performance for the following purposes:

(1) To inspect or investigate the matter of compliance with the safety and health standards contained in sub-

part C of this part and following subparts; and

(2) To carry out the duties of the Secretary under section 107(b) of the Act.

(b) For the purpose of carrying out his investigative duties under the Act, the Secretary of Labor may, by agreement, use with or without reimbursement the services, personnel, and facilities of any State or Federal agency. Any agreements with States under this section shall be similar to those provided for under the Walsh-Healey Public Contracts Act under 41 CFR Part 50-205.

§1926.4 Rules of practice for administrative adjudications for enforcement of safety and health standards.

(a) The rules of practice for administrative adjudications for the enforcement of the safety and health standards contained in subpart C of this part and the following subparts shall be the same as those published in part 6 of this title with respect to safety and health violations of the Service Contract Act of 1965 (69 Stat. 1035), except as provided in paragraph (b) of this section.

(b) In the case of debarment, the findings required by section 107(d) of the Act shall be made by the hearing examiner or the Assistant Secretary of Labor for Occupational Safety and Health, as the case may be.

Whenever, as provided in section 107(d)(2), a contractor requests termination of debarment before the end of the 3-year period prescribed in that section, the request shall be filed in writing with the Assistant Secretary of Labor for Occupational Safety and Health who shall publish a notice in the FEDERAL REGISTER that the request has been received and afford interested persons an opportunity to be heard upon the request, and thereafter the provisions of part 6 of this title shall apply with respect to prehearing conferences, hearings, and related matters, and decisions and orders.

Subpart B—General Interpretations [1]

1926.10 Scope of subpart.
1926.11 Coverage under section 103 of the act distinguished.
1926.12 Reorganization Plan No. 14 of 1950.
1926.13 Interpretations of statutory terms.
1926.14 Federal contracts for "mixed" types of performance.
1926.15 Relationship to the Service Contract Act; Walsh-Healey Public Contracts Act.
1926.16 Rules of construction.
    1910.11 Scope and purpose.
    1910.12 Construction work.
    1910.16 Longshoring.
    1910.19 Special provisions for air contaminats.

§ 1926.10 Scope of subpart.

(a) This subpart contains the general rules of the Secretary of Labor interpreting and applying the construction safety and health provisions of section 107 of the Contract Work Hours and Safety Standards Act (83 Stat. 96). Section 107 requires as a condition of each contract which is entered into under legislation subject to Reorganization Plan No. 14 of 1950 (64 Stat. 1267), and which is for construction, alteration, and/or repair, including painting and decorating, that no contractor or subcontractor contracting for any part of the contract work shall require any laborer or mechanic employed in the performance of the contract to work in surroundings or under working conditions which are unsanitary, hazardous, or dangerous to his health or safety, as determined under construction safety and health standards promulgated by the Secretary by regulation.

§ 1926.11 Coverage under section 103 of the Act distinguished.

(a) *Coverage under section 103.* It is important to note that the coverage of section 107 differs from that for the overtime requirements of the Contract Work Hours and Safety Standards Act. The application of the overtime requirements is governed by section 103, which, subject to specific exemptions, includes (1) Federal contracts requiring or involving the employment of laborers or mechanics (thus including, but not limited to, contracts for construction), and (2) contracts assisted in whole or in part by Federal loans, grants, or guarantees under any statute "providing wage standards for such work." The statutes "providing wage standards for such work" include statutes for construction which require the payment of minimum wages in accordance with prevailing wage findings by the Secretary of Labor in accordance with the Davis-Bacon Act. A provision to section 103 excludes from the overtime requirements work where the Federal assistance is only in the form of a loan guarantee or insurance.

(b) *Coverage under section 107.* To be covered by section 107 of the Contract Work Hours and Safety Standards Act, a contract must be one which (1) is entered into under a statute that is subject to Reorganization Plan No. 14 of 1950 (64 Stat. 1247); and (2) is for "construction, alteration, and/or repair, including painting and decorating."

§ 1926.12 Reorganization Plan No. 14 of 1950.

(a) *General provisions.* Reorganization Plan No. 14 of 1950 relates to the prescribing by the Secretary of Labor of "appropriate standards, regulations, and procedures" with respect to the enforcement of labor standards under Federal and federally assisted contracts which are subject to various statutes subject to the Plan. The rules of the Secretary of Labor implementing the Plan are published in part 5 of this title. Briefly, the statutes subject to the Plan include the Davis-Bacon Act including its extension to Federal-aid highway legislation subject to 23 U.S.C. 113, and other statutes subject to the Plan by its original terms, statutes by which the Plan is expressly applied, such as the Contract Work Hours and Safety Standards Act by virtue of section 104(d) thereof.

(b) *The Plan.* (1) The statutes subject to Reorganization Plan No. 14 of 1950 are cited and briefly described in the remaining subparagraphs of this paragraph. These descriptions are general in nature and not intended to convey the full scope of the work to be performed under each statute. The individual statutes should be resorted to for a more detailed scope of the work.

(2) *Federal-Aid Highway Acts.* The provisions codified in 23 U.S.C. 113 apply to the initial construction, reconstruction, or improvement work performed by contractors or subcontractors on highway projects on the Federal-aid systems, the primary and secondary, as well as their extensions in urban areas, and the Interstate System, authorized under the highway laws providing for the expenditure of Federal funds upon the Federal-aid system. As cited in 41 Op. A.G. 488, 496, the Attorney General ruled that the Federal-Aid Highway Acts are subject to Reorganization Plan No. 14 of 1950.

(3) *National Housing Act (12 U.S.C. 1713, 1715a, 1715e, 1715k, 1715l(d) (3) and (4), 1715v, 1715w, 1715x, 1743, 1747, 1748, 1748h-2, 1750g, 1715l(h)(1), 1715z(j)(1), 1715z-1, 1715y(d), Subchapter 1x-A and 1 x-B, 1715z-7).* This act covers construction which is financed with assistance by the Federal Government through programs of loan and mortgage insurance for the following purposes:

(i) Rental housing: Section 1713 provides mortgage and insurance on rental housing of eight or more units and on mobile-home courts.

(ii) Section 1715a: Repealed.

(iii) Cooperative housing: Section 1715e authorizes mortgage insurance on cooperative housing of five or more units as well as supplementary loans for improvement of repair or resale of memberships.

(iv) Urban renewal housing: Section 1715k provides mortgage insurance on single family or multifamily housing in approved urban renewal areas.

(v) Low or moderate income housing: Section 1715l(d) (3) and (4) insures mortgages on low-cost single family or multifamily housing.

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[1] Portions of the listed part 1910 standards have been identified as applicable to construction.

(vi) Housing for elderly: Section 1715v provides mortgage insurance on rental housing for elderly or handicapped persons.

(vii) Nursing homes: Section 1715w authorizes mortgage insurance on nursing home facilities and major equipment.

(viii) Experimental housing: Section 1715x provides mortgage insurance on single family or multifamily housing with experimental design of materials.

(ix) War housing insurance: Section 1743 not active.

(x) Yield insurance: Section 1747 insures investment returns on multifamily housing.

(xi) Armed services housing: Section 1748b to assist in relieving acute shortage and urgent need for family housing at or in areas adjacent to military installations.

(xii) Defense housing for impacted areas: Section 1748h-2 provides mortgage insurance on single family or multifamily housing for sale or rent primarily to military or civilian personnel of the Armed Services, National Aeronautics and Space Administration, or Atomic Energy Commission.

(xiii) Defense rental housing: Section 1750g provides for mortgage insurance in critical defense housing areas.

(xiv) Rehabilitation: Section 1715l(h)(1) provides mortgage insurance for nonprofit organizations to finance the purchase and rehabilitation of deteriorating or substandard housing for subsequent resale to low-income home purchasers. There must be located on the property five or more single family dwellings of detached, semidetached, or row construction.

(xv) Homeowner assistance: Section 1715z(j)(1) authorizes mortgage insurance to nonprofit organizations or public bodies or agencies executed to finance sale of individual dwellings to lower income individuals or families. Also includes the rehabilitation of such housing if it is deteriorating or substandard for subsequent resale to lower income home purchasers.

(xvi) Rental housing assistance: Section 1715z-1 authorizes mortgage insurance and interest reduction payments on behalf of owners of rental housing projects designed for occupancy by lower income families. Payments are also authorized for certain State or locally aided projects.

(xvii) Condominium housing: Section 1715y(d) provides mortgage insurance on property purchased for the development of building sites. This includes waterlines and water supply installations, sewer lines and sewage disposal installations, steam, gas, and electrical lines and installations, roads, streets, curbs, gutters, sidewalks, storm drainage facilities, and other installations or work.

(xviii) Group medical practice facilities: Subchapter LX-B authorizes mortgage insurance for the financing of construction and equipment, of facilities for group practice of medicine, optometry, or dentistry.

(xix) Nonprofit hospitals: 1715z-7 authorizes mortgage insurance to cover new and rehabilitated hospitals, including initial equipment.

(4) *Hospital Survey and Construction Act, as amended by the Hospital and Medical Facilities Amendments of 1964 (42 U.S.C. 291e).* The provisions of this Act cover construction contracts made by State or local authorities or private institutions under Federal grant-in-aid programs for the construction of hospitals and other medical facilities.

(5) *Federal Airport Act (49 U.S.C. 1114(b)).* The Act provides grant-in-aid funds for airport construction limited to general site preparation, runways, taxiways, aprons, lighting appurtenant thereto, and fire, rescue, and maintenance buildings. The Act excludes construction intended for use as a public parking facility for passenger automobiles and the cost of construction of any part of an airport building except such of those buildings or parts of buildings to house facilities or activities directly related to the safety of persons at the airport.

(6) *Housing Act of 1949 (42 U.S.C. 1459).* Construction contracts awarded by local authorities financed with the assistance of loans and grants from the Federal Government. The construction programs are for slum clearance and urban renewal which includes rehabilitation grants, neighborhood development programs, neighborhood renewal plans, community renewal, demolition projects, and assistance for blighted areas. See the Housing Act of 1964, No. 21 below, concerning financial assistance for low-rent housing for domestic farm labor.

(7) *School Survey and Construction Act of 1950 (20 U.S.C. 636).* This Act provides for a Federal grant-in-aid program to assist in the construction of schools in federally affected areas.

(8) *Defense Housing and Community Facilities and Services Act of 1951 (42 U.S.C. 1592i).* Inactive Program.

(9) *United States Housing Act of 1937 (42 U.S.C. 1416).* This statute covers the construction of low-rent public housing and slum clearance projects awarded by local authorities. These projects are financed with the assistance of loans and grants from the Federal Government. The slum clearance is the demolition and removal of buildings from any slum area to be used for a low-rent housing project.

(10) *Federal Civil Defense Act of 1950 (50 U.S.C. App. 2281).* This Act provides for Federal assistance to the several States and their political subdivisions in the field of civil defense which includes procurement, construction, leasing, or renovating of materials and facilities.

(11) *Delaware River Basin Compact (sec. 15.1, 75 Stat. 714).* This joint resolution creates, by intergovernmental compact between the United States, Delaware, New Jersey, New York, and Pennsylvania, a regional agency for planning, conservation, utilization, development, management and control of the water and related sources of the Delaware River.

(12) *Cooperative Research Act (20 U.S.C. 332a(c)).* This Act provides Federal grants to a university, college, or other appropriate public or nonprofit private agency or institution for part or all of the cost of constructing a facility for research or for research and related purposes. Research and related purposes means research, research training, surveys, or demonstrations in the field of education, or the dissemination of information derived therefrom, or all of such activities, including (but without limitation) experimental schools, except that such term does not include research, research training, surveys, or demonstrations in the field of sectarian instruction or the dissemination of information derived therefrom. Construction includes new buildings, and the acquisition, expansion, remodeling, replacement, and alteration of existing buildings and the equipping of new buildings and existing buildings.

(13) *Health Professions Educational Assistance Act of 1963 (42 U.S.C. 292d(c)(4), 293a(c)(5)).* The provisions of this Act provide for grants to assist public and nonprofit medical, dental, and similar schools for the construction, expansion, or renovation of teaching facilities.

(14) *Mental Retardation Facilities Construction Act (42 U.S.C. 295(a)(2)(d), 2662(5), 2675(a)(5)).* This Act authorizes Federal financial assistance in the construction of centers for research on mental retardation and related aspects of human development, of university-affiliated facilities for the mentally retarded and of facilities for the mentally retarded.

(15) *Community Mental Health Centers Act (42 U.S.C. 2685(a)(5)).* This Act authorizes Federal grants for the construction of public and other nonprofit community mental health centers.

(16) *Higher Education Facilities Act of 1963 (20 U.S.C. 753).* This Act authorized the grant or loan of Federal funds to assist public and other nonprofit institutions of higher education in financing the construction, rehabili-

tation, or improvement of academic and related facilities in undergraduate and graduate schools.

(17) *Vocational Educational Act of 1963 (20 U.S.C. 35f).* This Act provides for Federal grants to the various States for construction of area vocational educational school facilities.

(18) *Library Services and Construction Act (20 U.S.C. 355e(a)(4)).* This Act provides for Federal assistance to the various States for the construction of public libraries.

(19) *Urban Mass Transportation Act of 1954 (49 U.S.C. 1609).* This Act provides for grants and loans to assist States and local public bodies and agencies thereof in financing the acquisition, construction, reconstruction, and improvement of facilities and equipment for use, by operation or lease or otherwise, in mass transportation service in urban areas and in coordinating such service with highway and other transportation in such areas.

(20) *Economic Opportunity Act of 1964 (42 U.S.C. 2947).* This Act covers construction which is financed with assistance of the Federal Government for the following purposes:

(i) Authorizes Federal assistance for construction of projects, buildings and works which will provide young men and women in rural and urban residential centers with education, vocational training, and useful work experience (title I).

(ii) Authorizes financial assistance for construction work planned and carried out at the community level for antipoverty programs (title II):

(A) Authorizes loans to low income rural families by assisting them to acquire or improve real estate or reduce encumbrances or erect improvements thereon, and to participate in cooperative associations and/or to finance nonagricultural enterprises which will enable such families to supplement their income (title III);

(B) Authorizes loans to local cooperative associations furnishing essential processing, purchasing, or marketing services, supplies, or facilities predominantly to low-income rural families (title III);

(C) Authorizes financial assistance to States, political subdivisions of States, public and nonprofit agencies, institutions, organizations, farm associations, or individuals in establishing housing, sanitation, education, and child day-care programs for migrants and other seasonally employed agricultural employees and their families (title III).

(iii) Authorizes loans or guarantees loans to small businesses for construction work (title IV).

(iv) Authorizes the payment of the cost of experimental, pilot, or demonstration projects to foster State programs providing construction work experience or training for unemployed fathers and needy people (title V).

(21) *Housing Act of 1964 (42 U.S.C. 1486(f); 42 U.S.C. 1452(e)).* Provides financial assistance for low-rent housing for domestic farm labor. The Act further provides for loans, through public or private agencies, where feasible, to owners or tenants of property in urban renewal areas to finance rehabilitation required to conform the property to applicable code requirements or carry out the objectives of the urban renewal plan for the area.

(22) *The Commercial Fisheries Research and Development Act of 1964 (16 U.S.C. 779e(b)).* This Act authorizes financial assistance to State agencies for construction projects designed for the research and development of the commercial fisheries resources of the Nation.

(23) *The Nurse Training Act of 1964 (42 U.S.C. 296a(b)(5)).* This Act provides for grants to assist in the construction of new facilities for collegiate, associate degree, and diploma schools of nursing, or replacement or rehabilitation of existing facilities of such schools.

(24) *Elementary and Secondary Education Act of 1965 (20 U.S.C. 241i, 848).* The purpose of the Act is to provide financial assistance to local educational agencies serving areas with concentrations of children from low-income families for construction in connection with the expansion or improvement of their educational programs.

(25) *Federal Water Pollution Control Act, as amended by the Water Quality Act of 1965 (3 U.S.C. 466e(g)).* Provides for financial assistance to States or municipalities for construction of facilities in connection with the prevention and control of water pollution. This includes projects that will control the discharge into any waters of untreated or inadequately treated sewage.

(26) *Appalachian Regional Development Act of 1965 (40 U.S.C. App. 402).* Authorizes Federal assistance in the construction of an Appalachian development highway system; construction of multicounty demonstration health facilities, hospitals, regional health, diagnostic and treatment centers, and other facilities for health; seal and fill voids in abandoned mines and to rehabilitate strip mine areas; construction of school facilities for vocational education; and to assist in construction of sewage treatment works.

(27) *National Technical Institute for the Deaf Act (20 U.S.C. 684(b)(5)).* Provides for financial assistance for institutions of higher education for the establishment, construction, including equipment and operation, of a National Institution for the Deaf.

(28) *Housing Act of 1959 (12 U.S.C. 1701(q)(c)(3)).* This Act authorizes loans to nonprofit corporations to be used for the construction of housing and related facilities for elderly families. Also, the provisions of the Act provide for rehabilitation, alteration, conversion or improvement of existing structures which are otherwise inadequate for proposed dwellings used by such families.

(29) *College Housing Act of 1950, as amended (12 U.S.C. 1749a(f)).* This Act provides for Federal loans to assist educational institutions in providing housing and other educational facilities for students and faculties.

(30) *Housing and Urban Development Act of 1965 (42 U.S.C. 1500c-3, 3107).* This Act provides for Federal assistance for the following purposes:

(i) Grants to States and local public bodies to assist in any construction work to be carried out under the open-space land and urban beautification provisions contained therein. It provides for parks and recreation areas, conservation of land and other natural resources, and historical and scenic purposes.

(ii) Grants to local public bodies and agencies to finance specific projects for basic public water facilities (including works for the storage, treatment, purification, and distribution of water), and for basic public sewer facilities (other than "treatment works" as defined in the Federal Water Pollution Control Act).

(iii) Grants to any local public body or agency to assist in financing neighborhood facilities. These facilities must be necessary for carrying out a program of health, recreational, social, or similar community service and located so as to be available for the use of the area's low or moderate income residents.

(31) *National Foundation on the Arts and the Humanities Act of 1965 (20 U.S.C. 954(k)).* The Act establishes the "National Foundation on the Arts and the Humanities" which may provide matching grants to groups (nonprofit organizations and State and other public organizations) and to individuals engaged in creative and performing arts for the entire range of artistic activity, including construction of necessary facilities.

(32) *Public Works and Economic Development Act of 1965 (42 U.S.C. 3222).* This Act provides for Federal assistance for the following purposes:

(i) Grants for the acquisition or development of land or improvements for public works or development facility usage in redevelopment areas. It authorizes loans to assist in financing the purchase or development of land for public works which will assist in the creation of long-term employment opportunities in the area.

(ii) Loans for the purchase or development of land and facilities (including machinery and equipment) for industrial or commercial usage within redevelopment areas; guarantee of loans for working capital made to private borrowers by private lending institutions in connection with direct loan projects; and to contract to pay to, or on behalf of, business entities locating in redevelopment areas, a portion of the interest costs which they incur in financing their expansions from private sources.

(iii) Loans and grants to create economic development centers within designated country economic development districts.

(33) *High-Speed Ground Transportation Study* (*40 U.S.C. 1636(b)*). This Act provides for financial assistance for construction activities in connection with research and development of different forms of high-speed ground transportation and demonstration projects relating to intercity rail passenger service.

(34) *Heart Disease, Cancer and Stroke Amendments of 1965* (*42 U.S.C. 299(b)(4)*). This Act provides for grants to public or nonprofit private universities, medical schools, research institutions, hospitals, and other public and nonprofit agencies and institutions, or associations thereof to assist in construction and equipment of facilities in connection with research, training, demonstration of patient care, diagnostic and treatment related to heart disease, cancer, stroke, and other major diseases.

(35) *Mental Retardation Facilities and Community Mental Health Centers Construction Act Amendments of 1965* (*20 U.S.C. 613(g)*). These provisions provide for grants to institutions of higher education for construction of facilities for research or for research and related purposes relating to education for mentally retarded, hard of hearing, deaf, speech impaired, visually handicapped, seriously emotionally disturbed, crippled, or other health impaired children who by reason thereof require special education.

(36) *Vocational Rehabilitation Act Amendments of 1965* (*29 U.S.C. 41a(b)(4)*). This Act authorizes grants to assist in meeting the costs of construction of public or other nonprofit workshops and rehabilitation facilities.

(37) *Clean Air and Solid Waste Disposal Acts* (*42 U.S.C. 3256*). This Act provides for financial assistance to public (Federal, State, interstate, or local) authorities, agencies, and institutions, private agencies and institutions, and individuals in the construction of facilities for solid-waste disposal. The term construction includes the installation of initial equipment.

(38) *Medical Library Assistance Act of 1965* (*42 U.S.C. 280b-3(b)(3)*). This Act provides for grants to public or private nonprofit agencies or institutions for the cost of construction of medical library facilities.

(39) *Veterans Nursing Home Care Act* (*38 U.S.C. 5035(a)(8)*). The construction industry health and safety standards do not apply to this Act since it is not subject to Reorganization Plan No. 14 of 1950.

(40) *National Capital Transportation Act of 1965* (*40 U.S.C. 682(b)(4)*). This Act provides for Federal assistance to the National Capital Transportation Agency for construction of a rail rapid transit system and related facilities for the Nation's Capital.

(41) *Alaska Centennial—1967* (*80 Stat. 82*). The program under this legislation has expired.

(42) *Model Secondary School for the Deaf Act* (*80 Stat. 1028*). This Act provides for funds to establish and operate, including construction and initial equipment of new buildings, expansion, remodeling, and alteration of existing buildings and equipment thereof, a model secondary school for the deaf to serve the residents of the District of Columbia and nearby States.

(43) *Allied Health Professions Personnel Training Act of 1966* (*42 U.S.C. 295h(b)(2)(E)*). This Act provides for grants to assist in the construction of new facilities for training centers for allied health professions, or replacement or rehabilitation of existing facilities for such centers.

(44) *Demonstration Cities and Metropolitan Development Act of 1966* (*42 U.S.C. 3310; 12 U.S.C. 1715c; 42 U.S.C. 1416*). This Act provides for Federal assistance for the following purposes:

(i) Grants to assist in the construction, rehabilitation, alteration, or repair of residential property only if such residential property is designed for residential use for eight or more families to enable city demonstration agencies to carry out comprehensive city demonstration programs (42 U.S.C. 3310).

(ii) Amends the National Housing Act (12 U.S.C. 1715c) and the Housing Act of 1937 (42 U.S.C. 1416). See these Acts for coverage.

(45) *Air Quality Act of 1967* (*42 U.S.C 1857j-3*). This Act provides for Federal assistance to public or nonprofit agencies, institutions, and organizations and to individuals, and contracts with public or private agencies, institutions, or persons for construction of research and development facilities and demonstration plants relating to the application of preventing or controlling discharges into the air of various types of pollutants.

(46) *Elementary and Secondary Education Amendments of 1967* (*Title VII—Bilingual Education Act*) (*20 U.S.C. 880b-6*). This Act provides for Federal assistance to local educational agencies or to an institution of higher education applying jointly with a local educational agency for minor remodeling projects in connection with bilingual education programs to meet the special needs of children with limited English-speaking ability in the United States.

(47) *Vocational Rehabilitation Amendments of 1967* (*29 U.S.C. 42a(c)(3)*). This Act authorizes Federal assistance to any public or nonprofit private agency or organization for the construction of a center for vocational rehabilitation of handicapped individuals who are both deaf and blind which shall be known as the National Center for Deaf-Blind Youths and Adults. Construction includes new buildings and expansion, remodeling, alteration and renovation of existing buildings, and initial equipment of such new, newly acquired, expanded, remodeled, altered, or renovated buildings.

(48) *National Visitor Center Facilities Act of 1968* (*40 U.S.C. 808*). This Act authorizes agreements and leases with the owner of property in the District of Columbia known as Union Station for the use of all or a part of such property for a national visitor center to be known as the National Visitor Center. The agreements and leases shall provide for such alterations of the Union Station Building as necessary to provide adequate facilities for visitors. They also provide for the construction of a parking facility, including necessary approaches and ramps.

(49) *Juvenile Delinquency Prevention and Control Act of 1968* (*42 U.S.C. 3843*). This Act provides for Federal grants to State, county, municipal, or other public agency or combination thereof for the construction of facilities to be used in connection with rehabilitation services for the diagnosis, treatment, and rehabilitation of delinquent youths and youths in danger of becoming delinquent.

(50) *Housing and Urban Development Act of 1968* (*including New Communities Act of 1968*) (*42 U.S.C. 3909*). This Act provides for Federal assistance for the following purposes:

(i) Guarantees, and commitments to guarantee, the bonds, debentures, notes, and other obligations issued by new community developers to help finance new community development projects.

(ii) Amends section 212(a) of the National Housing Act, adding section 236 for "Rental Housing for Lower Income Families" and section 242 "Mortgage Insurance for Nonprofit Hospitals" thereto.

(51) *Public Health Service Act Amendment* (*Alcoholic and Narcotic*

Addict Rehabilitation Amendments of 1968) (*42 U.S.C. 2681, et seq.*). This Act provides for grants to a public and nonprofit private agency or organization for construction projects consisting of any facilities (including post-hospitalization treatment facilities for the prevention and treatment of alcoholism or treatment of narcotic addicts).

(52) *Vocational Education Amendments of 1968* (*20 U.S.C. 1246*). This Act provides for grants to States for the construction of area vocational education school facilities. The Act further provides grants to public educational agencies, organizations, or institutions for construction of residential schools to provide vocational education for the purpose of demonstrating the feasibility and desirability of such schools. The Act still further provides grants to State boards, to colleges and universities, to public educational agencies, organizations or institutions to reduce the cost of borrowing funds for the construction of residential schools and dormitories.

(53) *Postal Reorganization Act* (*39 U.S.C. 410(d)(2)*). This Act provides for construction, modification, alteration, repair, and other improvements of postal facilities located in leased buildings.

(54) *Airport and Airway Development Act of 1970* (*Pub. L. 91-258, sec. 52(b)(7)*). This Act provides for Federal financial assistance to States and localities for the construction, improvement, or repair of public airports.

(i) *Pub. L. 91-230.* This Act provides for Federal financial assistance to institutions of higher learning for the construction of a National Center on Educational Media and Materials for the Handicapped. The program under this statute expires on July 1, 1971. Pub. L. 91-230, section 662(1).

(ii) *Education of the Handicapped Act* (*20 U.S.C. 12326, 1404(a)*). This Act provides for financial assistance to States for construction, expansion, remodeling, or alteration of facilities for the education of handicapped children at the preschool, elementary school, and secondary school levels.

(56) *Housing and Urban Development Act of 1970* (*Pub. L. 91-609, sec. 707(b)*). This Act provides for grants to States and local public agencies to help finance the development of open-space or other land in urban areas for open-space uses. This Act becomes effective on July 1, 1971.

(57) *Developmental Disabilities Services and Facilities Construction Amendments of 1970* (*Pub. L. 91-517, sec. 135(a)(5)*). This Act authorizes grants to States for construction of facilities for the provision of services to persons with developmental disabilities who are unable to pay for such services.

(58) *Rail Passenger Service Act of 1970* (*Pub. L. 91-518, sec. 405(d)*). This statute provides that the National Railroad Passenger Corporation may construct physical facilities necessary to intercity rail passenger operations within the basic national rail passenger system designated by the Secretary of Transportation.

(c) *VA and FHA housing.* In the course of the legislative development of section 107, it was recognized that section 107 would not apply to housing construction for which insurance was issued by the Federal Housing Authority and Veterans' Administration for individual home ownership. Concerning construction under the National Housing Act, Reorganization Plan No. 14 of 1950 applies to construction which is subject to the minimum wage requirements of section 212(a) thereof (12 U.S.C. 1715c).

§ 1926.13 Interpretation of statutory terms.

(a) The terms "construction," "alteration," and "repair" used in section 107 of the Act are also used in section 1 of the Davis-Bacon Act (40 U.S.C. 276a), providing minimum wage protection on Federal construction contracts, and section 1 of the Miller Act (40 U.S.C. 270a), providing performance and payment bond protection on Federal construction contracts. Similarly, the terms "contractor" and "subcontractor" are used in those statutes, as well as in Copeland (Anti-Kickback) Act (40 U.S.C. 276c) and the Contract Work Hours and Safety Standards Act itself, which apply concurrently with the Miller Act and the Davis-Bacon Act on Federal construction contracts and also apply to most federally assisted construction contracts. The use of the same or identical terms in these statutes which apply concurrently with section 107 of the Act have considerable precedential value in ascertaining the coverage of section 107.

(b) It should be noted that section 1 of the Davis-Bacon Act limits minimum wage protection to laborers and mechanics "employed directly" upon the "site of the work." There is no comparable limitation in section 107 of the Act. Section 107 expressly requires as a self-executing condition of each covered contract that no contractor or subcontractor shall require "any laborer or mechanic employed in the performance of the contract to work in surroundings or under working conditions which are unsanitary, hazardous, or dangerous to his health or safety" as these health and safety standards are applied in the rules of the Secretary of Labor.

(c) The term "subcontractor" under section 107 is considered to mean a person who agrees to perform any part of the labor or material requirements of a contract for construction, alteration or repair. Cf. *MacEvoy Co.* v. *United States,* 322 U.S. 102, 108-9 (1944). A person who undertakes to perform a portion of a contract involving the furnishing of supplies or materials will be considered a "subcontractor" under this part and section 107 if the work in question involves the performance of construction work and is to be performed: (1) Directly on or near the construction site, or (2) by the employer for the specific project on a customized basis. Thus, a supplier of materials which will become an integral part of the construction is a "subcontractor" if the supplier fabricates or assembles the goods or materials in question specifically for the construction project and the work involved may be said to be construction activity. If the goods or materials in question are ordinarily sold to other customers from regular inventory, the supplier is not a "subcontractor." Generally, the furnishing of prestressed concrete beams and prestressed structural steel would be considered manufacturing, therefore a supplier of such materials would not be considered a "subcontractor." An example of material supplied "for the specific project on a customized basis" as that phrase is used in this section would be ventilating ducts, fabricated in a shop away from the construction jobsite and specifically cut for the project according to design specifications. On the other hand, if a contractor buys standard size nails from a foundry, the foundry would not be a covered "subcontractor." Ordinarily a contract for the supplying of construction equipment to a contractor would not, in and of itself, be considered a "subcontractor" for purposes of this part.

§ 1926.14 Federal contract for "mixed" types of performance.

(a) It is the intent of the Congress to provide safety and health protection of Federal, federally financed, or federally assisted construction. See, for example, H. Report No. 91-241, 91st Cong., first session, p. 1 (1969). Thus, it is clear that when a Federal contract calls for mixed types of performance, such as both manufacturing and construction, section 107 would apply to the construction. By its express terms, section 107 applies to a contract which is "for construction, alteration, and/or repair." Such a contract is not required to be exclusively for such services. The application of the section is not limited to contracts which permit an overall characterization as "construction contracts." The text of section 107 is not so limited.

(b) When the mixed types of performances include both construction and manufacturing, see also § 1926.15(b) concerning the relationship between the Walsh-Healey Public Contracts Act and section 107.

§ 1926.15 Relationship to the Service Contract Act; Walsh-Healey Public Contracts Act.

(a) A contract for "construction" is one for nonpersonal service. See e.g., 41 CFR 1-1.208. Section 2(e) of the Service Contract Act of 1965 requires as a condition of every Federal contract (and bid specification therefor) exceeding $2,500, the "principal purpose" of which is to furnish services to the United States through the use of "service employees," that certain safety and health standards be met. See 29 CFR part 1925, which contains the Department rules concerning these standards. Section 7 of the Service Contract Act provides that the Act shall not apply to "any contract of the United States or District of Columbia for construction, alteration, and/or repair, including painting and decorating of public buildings or public works." It is clear from the legislative history of section 107 that no gaps in coverage between the two statutes are intended.

(b) The Walsh-Healey Public Contracts Act requires that contracts entered into by any Federal agency for the manufacture or furnishing of materials, supplies, articles, and equipment in any amount exceeding $10,000 must contain, among other provisions, a requirement that "no part of such contract will be performed nor will any of the materials, supplies, articles or equipment to be manufactured or furnished under said contract be manufactured or fabricated in any plants, factories, buildings, or surroundings or under working conditions which are unsanitary or hazardous or dangerous to the health and safety of employees engaged in the performance of said contract." The rules of the Secretary concerning these standards are published in 41 CFR Part 50-204, and express the Secretary of Labor's interpretation and application of section 1(e) of the Walsh-Healey Public Contracts Act to certain particular working conditions. None of the described working conditions are intended to deal with construction activities, although such activities may conceivably be a part of a contract which is subject to the Walsh-Healey Public Contracts Act. Nevertheless, such activities remain subject to the general statutory duty prescribed by section 1(e). Section 103(b) of the Contract Work Hours and Safety Standards Act provides, among other things, that the Act shall not apply to any work required to be done in accordance with the provisions of the Walsh-Healey Public Contracts Act.

§ 1926.16 Rules of construction.

(a) The prime contractor and any subcontractors may make their own arrangements with respect to obligations which might be more appropriately treated on a jobsite basis rather than individually. Thus, for example, the prime contractor and his subcontractors may wish to make an express agreement that the prime contractor or one of the subcontractors will provide all required first-aid or toilet facilities, thus relieving the subcontractors from the actual, but not any legal, responsibility (or, as the case may be, relieving the other subcontractors from this responsibility). In no case shall the prime contractor be relieved of overall responsibility for compliance with the requirements of this part for all work to be performed under the contract.

(b) By contracting for full performance of a contract subject to section 107 of the Act, the prime contractor assumes all obligations prescribed as employer obligations under the standards contained in this part, whether or not he subcontracts any part of the work.

(c) To the extent that a subcontractor of any tier agrees to perform any part of the contract, he also assumes responsibility for complying with the standards in this part with respect to that part. Thus, the prime contractor assumes the entire responsibility under the contract and the subcontractor assumes responsibility with respect to his portion of the work. With respect to subcontracted work, the prime contractor and any subcontractor or subcontractors shall be deemed to have joint responsibility.

(d) Where joint responsibility exists, both the prime contractor and his subcontractor or subcontractors, regardless of tier, shall be considered subject to the enforcement provisions of the Act.

> The following requirements from 29 CFR Part 1910 (General Industry) have been identified as applicable to construction (29 CFR 1926 Subpart B), in accordance with their respective scopes and definitions.

§ 1910.11 Scope and purpose.

(a) The provisions of this subpart B adopt and extend the applicability of, established Federal standards in effect on April 28, 1971, with respect to every employer, employee, and employment covered by the Act.

(b) It bears emphasis that only standards (i.e., substantive rules) relating to safety or health are adopted by any incorporations by reference of standards prescribed elsewhere in this chapter or this title. Other materials contained in the referenced parties are not adopted. Illustrations of the types of materials which are not adopted are these. The incorporations by reference of parts 1915, 1916, 1917, 1918 in §§ 1910.13, 1910.14, 1910.15, and 1910.16 are not intended to include the discussion in those parts of the coverage of the Longshoremen's and Harbor Workers' Compensation Act or the penalty provisions of the Act. Similarly, the incorporation by reference of Part 1926 in § 1910.12 is not intended to include references to interpretative rules having relevance to the application of the Construction Safety Act, but having no relevance to the application to the Occupational Safety and Health Act.

§ 1910.12 Construction work.

(a) *Standards.* The standards prescribed in part 1926 of this chapter are adopted as occupational safety and health standards under section 6 of the Act and shall apply, according to the provisions thereof, to every employment and place of employment of every employee engaged in construction work. Each employer shall protect the employment and places of employment of each of his employees engaged in construction work by complying with the appropriate standards prescribed in this paragraph.

(b) *Definition.* For purposes of this section, "construction work" means work for construction, alteration, and/or repair, including painting and decorating. See discussion of these terms in § 1926.13 of this title.

(c) *Construction Safety Act distinguished.* This section adopts as occupational safety and health standards under section 6 of the Act the standards which are prescribed in part 1926 of this chapter. Thus, the standards (substantive rules) published in subpart C and the following subparts of part 1926 of this chapter are applied. This section does not incorporate subparts A and B of part 1926 of this chapter. Subparts A and B have pertinence only to the application of section 107 of the Contract Work Hours and Safety Standards Act (the Construction Safety Act). For example, the interpretation of the term "subcontractor" in paragraph (c) of § 1926.13 of this chapter is significant in discerning the coverage of the Construction Safety Act and duties thereunder. However, the term "subcontractor" has no significance in the application of the Act, which was enacted under the

Commerce Clause and which establishes duties for "employers" which are not dependent for their application upon any contractual relationship with the Federal Government or upon any form of Federal financial assistance.

§ 1910.16 Longshoring.

(a) *Adoption and extension of established safety and health standards for longshoring.* The standards prescribed by part 1504 of this title and in effect on April 28, 1971, are adopted as occupational safety or health standards under section 6(a) of the Act and shall apply, according to the provisions thereof, to every employment and place of employment of every employee engaged in longshoring operations or a related employment. Each employer shall protect the employment and places of employment of each of his employees engaged in a longshoring operation or a related employment, by complying with the appropriate standards prescribed by this paragraph.

(b) *Definitions.* For purposes of this section:

(1) "Longshoring operation" means the loading, unloading, moving, or handling of, cargo, ship's stores, gear, etc., into, in, on, or out of any vessel;

(2) "Related employment" means any employment performed as an incident to or in conjunction with, longshoring operations including, but not restricted to, securing cargo, rigging, and employment as a porter, checker, or watchman; and

(3) "Vessel" includes every description of watercraft or other artificial contrivance used, or capable of being used, as a means of transportation on water, including special purpose floating structures not primarily designed for, or used as a means of, transportation on water.

§ 1910.19 Special provisions for air contaminants.

Section 1910.1001 shall apply to the exposure of every employee to asbestos dust in every employment and place of employment covered by § 1910.12, § 1910.13, § 1910.14, § 1910.15, or § 1910.16, in lieu of any different standard on exposure to asbestos dust which would otherwise be applicable by virtue of any of those sections.

Subpart C—General Safety and Health Provisions

1926.20 General safety and health provisions.
1926.21 Safety training and education.
1926.22 Recording and reporting of injuries. [Reserved]
1926.23 First aid and medical attention.
1926.24 Fire protection and prevention.
1926.25 Housekeeping.
1926.26 Illumination.
1926.27 Sanitation.
1926.28 Personal protective equipment.
1910.132 General requirements.
1910.136 Foot protection.
1926.29 Acceptable certification.
1926.30 Shipbuilding and ship repairing.
1926.31 Incorporation by reference.
1926.32 Definitions.

§ 1926.20 General safety and health provisions.

(a) *Contractor requirements.* (1) Section 107 of the Act requires that it shall be a condition of each contract which is entered into under legislation subject to Reorganization Plan No. 14 of 1950 (64 Stat. 1267), as defined in § 1926.12, and is for construction, alteration, and/or repair, including painting and decorating, that no contractor or subcontractor for any part of the contract work shall require any laborer or mechanic employed in the performance of the contract to work in surroundings or under working conditions which are unsanitary, hazardous, or dangerous to his health or safety.

(b) *Accident prevention responsibilities.* (1) It shall be the responsibility of the employer to initiate and maintain such programs as may be necessary to comply with this part.

(2) Such programs shall provide for frequent and regular inspections of the job sites, materials, and equipment to be made by competent persons designated by the employers.

(3) The use of any machinery, tool, material, or equipment which is not in compliance with any applicable requirement of this part is prohibited. Such machine, tool, material, or equipment shall either be identified as unsafe by tagging or locking the controls to render them inoperable or shall be physically removed from its place of operation.

(4) The employer shall permit only those employees qualified by training or experience to operate equipment and machinery.

§ 1926.21 Safety training and education.

(a) *General requirements.* The Secretary shall, pursuant to section 107(f) of the Act, establish and supervise programs for the education and training of employers and employees in the recognition, avoidance, and prevention of unsafe conditions in employments covered by the Act.

(b) *Employer responsibility.* (1) The employer should avail himself of the safety and health training programs the Secretary provides.

(2) The employer shall instruct each employee in the recognition and avoidance of unsafe conditions and the regulations applicable to his work environment to control or eliminate any hazards or other exposure to illness or injury.

(3) Employees required to handle or use poisons, caustics, and other harmful substances shall be instructed regarding the safe handling and use, and be made aware of the potential hazards, personal hygiene, and personal protective measures required.

(4) In job site areas where harmful plants or animals are present, employees who may be exposed shall be instructed regarding the potential hazards, and how to avoid injury, and the first aid procedures to be used in the event of injury.

(5) Employees required to handle or use flammable liquids, gases, or toxic materials shall be instructed in the safe handling and use of these materials and made aware of the specific requirements contained in subparts D, F, and other applicable subparts of this part.

(6)(i) All employees required to enter into confined or enclosed spaces shall be instructed as to the nature of the hazards involved, the necessary precautions to be taken, and in the use of protective and emergency equipment required. The employer shall comply with any specific regulations that apply to work in dangerous or potentially dangerous areas.

(ii) For purposes of subdivision (i) of this subparagraph, "confined or enclosed space" means any space having a limited means of egress, which is subject to the accumulation of toxic or flammable contaminants or has an oxygen deficient atmosphere. Confined or enclosed spaces include, but are not limited to, storage tanks, process vessels, bins, boilers, ventilation or exhaust ducts, sewers, underground utility vaults, tunnels, pipelines, and open top spaces more than 4 feet in depth such as pits, tubs, vaults, and vessels.

§ 1926.22 Recording and reporting of injuries. [Reserved]

§ 1926.23 First aid and medical attention.

First aid services and provisions for medical care shall be made available by the employer for every employee covered by these regulations. Regulations prescribing specific requirements for first aid, medical attention, and emergency facilities are contained in subpart D of this part.

§ 1926.24 Fire protection and prevention.

The employer shall be responsible for the development and maintenance of an effective fire protection and prevention program at the job site throughout all phases of the construction, repair, alteration, or demolition work. The employer shall insure the availability of the fire protection and suppression equipment required by subpart F of this part.

§ 1926.25 Housekeeping.

(a) During the course of construction, alteration, or repairs, form and scrap lumber with protruding nails, and all other debris, shall be kept cleared from work areas, passageways, and stairs, in and around buildings or other structures.

(b) Combustible scrap and debris shall be removed at regular intervals during the course of construction. Safe means shall be provided to facilitate such removal.

(c) Containers shall be provided for the collection and separation of waste, trash, oily and used rags, and other refuse. Containers used for garbage and other oily, flammable, or hazardous wastes, such as caustics, acids, harmful dusts, etc., shall be equipped with covers. Garbage and other waste shall be disposed of at frequent and regular intervals.

§ 1926.26 Illumination.

Construction areas, aisles, stairs, ramps, runways, corridors, offices, shops, and storage areas where work is in progress shall be lighted with either natural or artificial illumination. The minimum illumination requirements for work areas are contained in subpart D of this part.

§ 1926.27 Sanitation.

Health and sanitation requirements for drinking water are contained in subpart D of this part.

§ 1926.28 Personal protective equipment.

(a) The employer is responsible for requiring the wearing of appropriate personal protective equipment in all operations where there is an exposure to hazardous conditions or where this part indicates the need for using such equipment to reduce the hazards to the employees.

(b) Regulations governing the use, selection, and maintenance of personal protective and lifesaving equipment are described under subpart E of this part.

> The following requirements from 29 CFR Part 1910 (General Industry) have been identified as applicable to construction (29 CFR 1926.28—Personal Protective Equipment).

§ 1910.132 General requirements.

* * * * *

(b) *Employee-owned equipment.* Where employees provide their own protective equipment, the employer shall be responsible to assure its adequacy, including proper maintenance, and sanitation of such equipment.

(c) *Design.* All personal protective equipment shall be of safe design and construction for the work to be performed.

§ 1910.136 Occupational foot protection.

Safety-toe footwear for employees shall meet the requirements and specifications in American National Standard for Men's Safety-Toe Footwear, Z41.1-1967.

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§ 1926.29 Acceptable certifications.

(a) *Pressure vessels.* Current and valid certification by an insurance company or regulatory authority shall be deemed as acceptable evidence of safe installation, inspection, and testing of pressure vessels provided by the employer.

(b) *Boilers.* Boilers provided by the employer shall be deemed to be in compliance with the requirements of this part when evidence of current and valid certification by an insurance company or regulatory authority attesting to the safe installation, inspection, and testing is presented.

(c) *Other requirements.* Regulations prescribing specific requirements for other types of pressure vessels and similar equipment are contained in subparts F and O of this part.

§ 1926.30 Shipbuilding and ship repairing.

(a) *General.* Shipbuilding, ship repairing, alterations, and maintenance performed on ships under Government contract, except naval ship construction, is work subject to the Act.

(b) *Applicable safety and health standards.* For the purpose of work carried out under this section, the safety and health regulations promulgated by the Secretary of Labor shall apply: Part 1915 of this title, Safety and Health Regulations for Ship Repairing, and Part 1916 of this title, Safety and Health Regulations for Shipbuilding.

§ 1926.31 Incorporation by reference.

(a) The specifications, standards, and codes of agencies of the U.S. Government and organizations which are not agencies of the U.S. Government, to the extent they are legally incorporated by reference in this part, have the same force and effect as other standards in this part. The locations where these specifications, standards, and codes may be examined are as follows:

(1) Offices of the Occupational Safety and Health Administration, U.S. Department of Labor, New Department of Labor Building, 200 Constitution Avenue., NW., Washington, D.C. 20210.

(2) The Regional and Field Offices of the Occupational Safety and Health Administration which are listed in the U.S. Government Manual 1978-79, at page 394.

(b) Any changes in the specifications, standards and codes incorporated by reference in this part and an official historic file of such changes are available at the offices referred to in paragraph (a) of this section. All questions as to the applicability of such changes should also be referred to these offices.

§ 1926.32 Definitions.

The following definitions shall apply in the application of the regulations in this part:

(a) "Act" means section 107 of the Contract Work Hours and Safety Standards Act, commonly known as the Construction Safety Act (86 Stat. 96; 40 U.S.C. 333).

(b) "ANSI" means American National Standards Institute.

(c) "Approved" means sanctioned, endorsed, accredited, certified, or accepted as satisfactory by a duly constituted and nationally recognized authority or agency.

(d) "Authorized person" means a person approved or assigned by the employer to perform a specific type of duty or duties or to be at a specific location or locations at the jobsite.

(e) "Administration" means the Occupational Safety and Health Administration.

(f) "Competent person" means one who is capable of identifying existing and predictable hazards in the surroundings or working conditions which are unsanitary, hazardous, or dangerous to employees, and who has authorization to take prompt corrective measures to eliminate them.

(g) "Defect" means any characteristic or condition which tends to weaken or reduce the strength of the tool, object, or structure of which it is a part.

(h) "Designated person" means "authorized person" as defined in paragraph (d) of this section.

(i) "Employee" means every laborer or mechanic under the Act regardless of the contractual relationship which may be alleged to exist between the laborer and mechanic and the contractor or subcontractor who engaged him. "Laborer and mechanic" are not defined in the Act, but the identical terms are used in the Davis-Bacon Act (40 U.S.C. 276a), which provides for minimum wage protection on Federal and federally assisted construction contracts. The use of the same term in a statute which often applies concurrently with section 107 of the Act has considerable precedential value in ascertaining the meaning of "laborer and mechanic" as used in the Act. "Laborer" generally means one who performs manual labor or who labors at an occupation requiring physical strength; "mechanic" generally means a worker skilled with tools. See 18 Comp. Gen. 341.

(j) "Employer" means contractor or subcontractor within the meaning of the Act and of this part.

(k) "Hazardous substance" means a substance which, by reason of being explosive, flammable, poisonous, corrosive, oxidizing, irritating, or otherwise harmful, is likely to cause death or injury.

(l) "Qualified" means one who, by possession of a recognized degree, certificate, or professional standing, or who by extensive knowledge, training, and experience, has successfully demonstrated his ability to solve or resolve problems relating to the subject matter, the work, or the project.

(m) "Safety factor" means the ratio of the ultimate breaking strength of a member or piece of material or equipment to the actual working stress or safe load when in use.

(n) "Secretary" means the Secretary of Labor.

(o) "SAE" means Society of Automotive Engineers.

(p) "Shall" means mandatory.

(q) "Should" means recommended.

(r) "Suitable" means that which fits, and has the qualities or qualifications to meet a given purpose, occasion, condition, function, or circumstance.

Subpart D—Occupational Health and Environmental Controls[1]

Sec.
1926.50 Medical services and first aid.
1926.51 Sanitation.
1910.141 Sanitation.
1910.151 Medical services and first aid.
1926.52 Occupational noise exposure.
1926.53 Ionizing radiation.
1926.54 Nonionizing radiation.
1926.55 Gases, vapors, fumes, dusts, and mists.
1910.161 Carbon dioxide use.
1926.56 Illumination.
1926.57 Ventilation.

§ 1926.50 Medical services and first aid.

(a) The employer shall insure the availability of medical personnel for advice and consultation on matters of occupational health.

(b) Provisions shall be made prior to commencement of the project for prompt medical attention in case of serious injury.

(c) In the absence of an infirmary, clinic, hospital, or physician, that is reasonably accessible in terms of time and distance to the worksite, which is available for the treatment of injured employees, a person who has a valid certificate in first-aid training from the U.S. Bureau of Mines, the American Red Cross, or equivalent training that can be verified by documentary evidence, shall be available at the worksite to render first aid.

(d)(1) First-aid supplies approved by the consulting physician shall be easily accessible when required.

(2) The first-aid kit shall consist of materials approved by the consulting physician in a weatherproof container with individual sealed packages for each type of item. The contents of the first-aid kit shall be checked by the employer before being sent out on each job and at least weekly on each job to ensure that the expended items are replaced.

(e) Proper equipment for prompt transportation of the injured person to a physician or hospital, or a communication system for contacting necessary ambulance service, shall be provided.

(f) The telephone numbers of the physicians, hospitals, or ambulances shall be conspicuously posted.

§ 1926.51 Sanitation.

(a) *Potable water.* (1) An adequate supply of potable water shall be provided in all places of employment.

(2) Portable containers used to dispense drinking water shall be capable of being tightly closed, and equipped with a tap. Water shall not be dipped from containers.

(3) Any container used to distribute drinking water shall be clearly marked as to the nature of its contents and not used for any other purpose.

(4) The common drinking cup is prohibited.

(5) Where single service cups (to be used but once) are supplied, both a sanitary container for the unused cups and a receptacle for disposing of the used cups shall be provided.

(b) *Nonpotable water.* (1) Outlets for nonpotable water, such as water for industrial or firefighting purposes only, shall be identified by signs meeting the requirements of Subpart G of this part, to indicate clearly that the water is unsafe and is not to be used for drinking, washing, or cooking purposes.

(2) There shall be no cross-connection, open or potential, between a system furnishing potable water and a system furnishing nonpotable water.

(c) *Toilets at construction jobsites.* (1) Toilets shall be provided for employees according to the following table:

TABLE D-1

Number of employees	*Minimum number of facilities*
20 or less	1.
20 or more	1 toilet seat and 1 urinal per 40 workers.
200 or more.	1 toilet seat and 1 urinal per 50 workers.

(2) Under temporary field conditions, provisions shall be made to assure not less than one toilet facility is available.

(3) Job sites, not provided with a sanitary sewer, shall be provided with one of the following toilet facilities unless prohibited by local codes:

(i) Privies (where their use will not contaminate ground or surface water);

(ii) Chemical toilets;

(iii) Recirculating toilets;

(iv) Combustion toilets.

(4) The requirements of this paragraph (c) for sanitation facilities shall not apply to mobile crews having transportation readily available to nearby toilet facilities.

(d) *Food handling.* All employees' food service facilities and operations shall meet the applicable laws, ordinances, and regulations of the jurisdictions in which they are located.

(e) *Temporary sleeping quarters.* When temporary sleeping quarters are provided, they shall be heated, ventilated, and lighted.

(f) *Washing facilities.* The employer shall provide adequate washing facilities for employees engaged in the application of paints, coating, herbicides, or insecticides, or in other operations where contaminants may be harmful to the employees. Such facilities shall be in near proximity to the worksite and shall be so equipped as to enable employees to remove such substances.

(g) [Revoked.]

> The following requirements from 29 CFR Part 1910 (General Industry) have been identified as applicable to construction (29 CFR 1926.51 *Sanitation*), in accordance with their respective scope and definitions.

§ 1910.141 Sanitation.

(a)(1) *Scope.*—This section applies to permanent places of employment.

(2) * * *

(v) "Potable water" means water which meets the quality standards prescribed in the U.S. Public Health Service Drinking Water Standards, published in 42 CFR part 72, or water which is approved for drinking purposes by the State or local authority having jurisdiction.

* * * * *

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[1] Portions of the listed Part 1910 standards have been identified as applicable to construction.

(5) *Vermin control.* Every enclosed workplace shall be so constructed, equipped, and maintained, so far as reasonably practicable, as to prevent the entrance or harborage of rodents, insects, and other vermin. A continuing and effective extermination program shall be instituted where their presence is detected.

* * * * *

(g) * * *

(2) *Eating and drinking areas.* No employee shall be allowed to consume food or beverages in a toilet room nor in any area exposed to a toxic material.* * *

(h) All employee food service facilities and operations shall be carried out in accordance with sound hygienic principles. in all places of employment where all or part of the food service is provided, the food dispensed shall be wholesome, free from spoilage, and shall be processed, prepared, handled, and stored in such a manner as to be protected against contamination.

§ 1910.151 Medical services and first aid.

* * * * *

(c) Where the eyes or body of any person may be exposed to injurious corrosive materials, suitable facilities for quick drenching or flushing of the eyes and body shall be provided within the work area for immediate emergency use.

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§ 1926.52 Occupational noise exposure.

(a) Protection against the effects of noise exposure shall be provided when the sound levels exceed those shown in Table D-2 of this section when measured on the A-scale of a standard sound level meter at slow response.

(b) When employees are subjected to sound levels exceeding those listed in Table D-2 of this section, feasible administrative or engineering controls shall be utilized. If such controls fail to reduce sound levels within the levels of the table, personal protective equipment as required in Subpart E, shall be provided and used to reduce sound levels within the levels of the table.

(c) If the variations in noise level involve maxima at intervals of 1 second or less, it is to be considered continuous.

(d)(1) In all cases where the sound levels exceed the values shown herein, a continuing, effective hearing conservation program shall be administered.

TABLE D-2—PERMISSIBLE NOISE EXPOSURES

Duration per day, hours:	*Sound level dBA slow response*
8	90
6	92
4	95
3	97
2	100
1½	102
1	105
½	110
¼ or less	115

(2)(i) When the daily noise exposure is composed of two or more periods of noise exposure of different levels, their combined effect should be considered, rather than the individual effect of each. Exposure to different levels for various periods of time shall be computed according to the formula set forth in subdivision (ii) of this subparagraph.

(ii) $F_e=(T_1/L_1)+(T_2/L_2)+\cdots+(T_n/L_n)$

where:

F_e=The equivalent noise exposure factor.

T=The period of noise exposure at any essentially constant level.

L=The duration of the permissible noise exposure at the constant level (from Table D-2).

If the value of F_e exceeds unity (1) the exposure exceeds permissible levels.

(iii) A sample computation showing an application of the formula in subdivision (ii) of this paragraph is as follows. An employee is exposed at these levels for these periods:

110 dB A ¼ hour.
100 dB A ½ hour.
90 dB A 1½ hours.

$$F_e=(1/4/1/2)+(1/2/2)+(1\tfrac{1}{2}/8)$$

$F_e=0.500+0.25+0.188$
$F_e=0.938$

Since the value of F_e does not exceed unity, the exposure is within permissible limits.

(e) Exposure to impulsive or impact noise should not exceed 140 dB peak sound pressure level.

§ 1926.53 Ionizing radiation.

(a) In construction and related activities involving the use of sources of ionizing radiation, the pertinent provisions of the Atomic Energy Commission's Standards for Protection Against Radiation (10 CFR Part 20), relating to protection against occupational radiation exposure, shall apply.

(b) Any activity which involves the use of radioactive materials or X-rays, whether or not under license from the Atomic Energy Commission, shall be performed by competent persons specially trained in the proper and safe operation of such equipment. In the case of materials used under Commission license, only persons actually licensed, or competent persons under direction and supervision of the licensee, shall perform such work.

§ 1926.54 Nonionizing radiation.

(a) Only qualified and trained employees shall be assigned to install, adjust, and operate laser equipment.

(b) Proof of qualification of the laser equipment operator shall be available and in possession of the operator at all times.

(c) Employees, when working in areas in which a potential exposure to direct or reflected laser light greater than 0.005 watts (5 milliwatts) exists, shall be provided with antilaser eye protection devices as specified in Subpart E of this part.

(d) Areas in which lasers are used shall be posted with standard laser warning placards.

(e) Beam shutters or caps shall be utilized, or the laser turned off, when laser transmission is not actually required. When the laser is left unattended for a substantial period of time, such as during lunch hour, overnight, or at change of shifts, the laser shall be turned off.

(f) Only mechanical or electronic means shall be used as a detector for guiding the internal alignment of the laser.

(g) The laser beam shall not be directed at employees.

(h) When it is raining or snowing, or when there is dust or fog in the air, the operation of laser systems shall be prohibited where practicable; in any event, employees shall be kept out of range of the area of source and target during such weather conditions.

(i) Laser equipment shall bear a label to indicate maximum output.

(j) Employees shall not be exposed to light intensities above:

(1) Direct staring: 1 micro-watt per square centimeter;

(2) Incidental observing: 1 milliwatt per square centimeter;

(3) Diffused reflected light: 2½ watts per square centimeter.

(k) Laser unit in operation should be set up above the heads of the employees, when possible.

(l) Employees shall not be exposed to microwave power densities in excess of 10 milliwatts per square centimeter.

§ 1926.55 Gases, vapors, fumes, dusts, and mists.

(a) Exposure of employees to inhalation, ingestion, skin absorption, or contact with any material or substance at a concentration above those specified in the "Threshold Limit Values of Airborne Contaminants for 1970" of the American Conference of Governmental Industrial Hygienists, shall be avoided.

(b) To achieve compliance with paragraph (a) of this section, administrative or engineering controls must first be implemented whenever feasible. When such controls are not feasible to achieve full compliance, protective equipment or other protective measures shall be used to keep the exposure of employees to air contaminants within the limits prescribed in this section. Any equipment and technical measures used for this purpose must first be approved for each particular use by a competent industrial hygienist or other technically qualified person. Whenever respirators are used, their use shall comply with § 1926.103.

(c) Paragraphs (a) and (b) of this section do not apply to the exposure of employees to airborne asbestos dust. Whenever any employee is exposed to airborne asbestos dust, the requirements of § 1910.1001 of this title shall apply.

> The following requirement from 29 CFR Part 1910 (General Industry) has been identified as applicable to construction (29 CFR 1926.55 *Gases, vapors, fumes, dusts and mists*).

§ 1910.161 Carbon dioxide extinguishing systems.

(a) * * *

(2) *Safety requirements.* In any use of carbon dioxide where there is a possibility that employees may be trapped in, or enter into atmospheres made hazardous by a carbon dioxide discharge, suitable safeguards shall be provided to insure prompt evacuation of and to prevent entry into such atmospheres and also to provide means for prompt rescue of any trapped personnel. Such safety items as personnel training, warning signs, discharge alarms, predischarge alarms, and breathing apparatus shall be considered.

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§ 1926.56 Illumination.

(a) *General.* Construction areas, ramps, runways, corridors, offices, shops, and storage areas shall be lighted to not less than the minimum illumination intensities listed in Table D-3 while any work is in progress:

TABLE D-3—MINIMUM ILLUMINATION INTENSITIES IN FOOT-CANDLES

Foot-candles:	*Area or operation*
5	General construction area lighting.
3	General construction areas, concrete placement, excavation and waste areas, accessways, active storage areas, loading platforms, refueling, and field maintenance areas.
5	Indoors: warehouses, corridors, hallways, and exitways.
5	Tunnels, shafts, and general underground work areas: (Exception: minimum of 10 foot-candles is required at tunnel and shaft heading during drilling, mucking, and scaling. Bureau of Mines approved cap lights shall be acceptable for use in the tunnel heading.)
10	General construction plant and shops (e.g., batch plants, screening plants, mechanical and electrical equipment rooms, carpenter shops, rigging lofts and active storerooms, barracks or living quarters, locker or dressing rooms, mess halls, and indoor toilets and workrooms).
30	First aid stations, infirmaries, and offices.

(b) *Other areas.* For areas or operations not covered above, refer to the American National Standard A11.1-1965, R1970, Practice for Industrial Lighting, for recommended values of illumination.

§ 1926.57 Ventilation.

(a) *General.* Whenever hazardous substances such as dusts, fumes, mists, vapors, or gases exist or are produced in the course of construction work, their concentrations shall not exceed the limits specified in § 1926.55(a). When ventilation is used as an engineering control method, the system shall be installed and operated according to the requirements of this section.

(b) *Local exhaust ventilation.* Local exhaust ventilation when used as described in (a) shall be designed to prevent dispersion into the air of dusts, fumes, mists, vapors, and gases in concentrations causing harmful exposure. Such exhaust systems shall be so designed that dusts, fumes, mists, vapors, or gases are not drawn through the work area of employees.

(c) *Design and operation.* Exhaust fans, jets, ducts, hoods, separators, and all necessary appurtenances, including refuse receptacles, shall be so designed, constructed, maintained and operated as to ensure the required protection by maintaining a volume and velocity of exhaust air sufficient to gather dusts, fumes, vapors, or gases from said equipment or process, and to convey them to suitable points of safe disposal, thereby preventing their dispersion in harmful quantities into the atmosphere where employees work.

(d) *Duration of operations.* (1) The exhaust system shall be in operation continually during all operations which it is designed to serve. If the employee remains in the contaminated zone, the system shall continue to operate after the cessation of said operations, the length of time to depend upon the individual circumstances and effectiveness of the general ventilation system.

(2) Since dust capable of causing disability is, according to the best medical opinion, of microscopic size, tending to remain for hours in suspension in still air, it is essential that the exhaust system be continued in operation for a time after the work process or equipment served by the same shall have ceased, in order to ensure the removal of the harmful elements to the required extent. For the same reason, employees wearing respiratory equipment should not remove same immediately until the atmosphere seems clear.

(e) *Disposal of exhaust materials.* The air outlet from every dust separator, and the dusts, fumes, mists, vapors, or gases collected by an exhaust or ventilating system shall discharge to the outside atmosphere. Collecting systems which return air to work area may be used if concentrations which accumulate in the work area air do not result in harmful exposure to employees. Dust and refuse discharged from an exhaust system shall be disposed of in such a manner that it will not result in harmful exposure to employees.

Subpart E—Personal Protective and Life Saving Equipment [1]

Sec.
1926.100 Head protection.
1926.101 Hearing protection.
1926.102 Eye and face protection.
1926.103 Respiratory protection.
  1910.94 Ventilation.
  1910.134 Respiratory protection.
1926.104 Safety belts, lifelines, and lanyards.
1926.105 Safety nets.
1926.106 Working over or near water.
1926.107 Definitions applicable to this subpart.

§ 1926.100 Head protection.

(a) Employees working in areas where there is a possible danger of head injury from impact, or from falling or flying objects, or from electrical shock and burns, shall be protected by protective helmets.

(b) Helmets for the protection of employees against impact and penetration of falling and flying objects shall meet the specifications contained in American National Standards Institute, Z89.1-1969, Safety Requirements for Industrial Head Protection.

(c) Helmets for the head protection of employees exposed to high voltage electrical shock and burns shall meet the specifications contained in American National Standards Institute, Z89.2-1971.

§ 1926.101 Hearing protection.

(a) Wherever it is not feasible to reduce the noise levels or duration of exposures to those specified in Table D-2, Permissible Noise Exposures, in

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[1] Portions of the listed Part 1910 standards have been identified as applicable to construction.

§ 1926.52, ear protective devices shall be provided and used.

(b) Ear protective devices inserted in the ear shall be fitted or determined individually by competent persons.

(c) Plain cotton is not an acceptable protective device.

§ 1926.102 Eye and face protection.

(a) *General.* (1) Employees shall be provided with eye and face protection equipment when machines or operations present potential eye or face injury from physical, chemical, or radiation agents.

(2) Eye and face protection equipment required by this Part shall meet the requirements specified in American National Standards Institute, Z87.1-1968, Practice for Occupational and Educational Eye and Face Protection.

(3) Employees whose vision requires the use of corrective lenses in spectacles, when required by this regulation to wear eye protection, shall be protected by goggles or spectacles of one of the following types:

(i) Spectacles whose protective lenses provide optical correction;

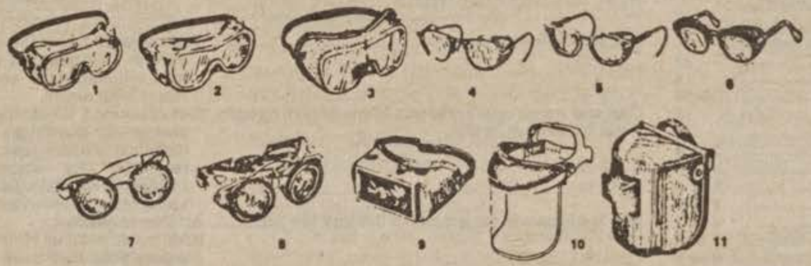
(ii) Goggles that can be worn over corrective spectacles without disturbing the adjustment of the spectacles;

(iii) Goggles that incorporate corrective lenses mounted behind the protective lenses.

(4) Face and eye protection equipment shall be kept clean and in good repair. The use of this type equipment with structural or optical defects shall be prohibited.

(5) Table E-1 shall be used as a guide in the selection of face and eye protection for the hazards and operations noted.

TABLE E-1—EYE AND FACE PROTECTOR SELECTION GUIDE



1. GOGGLES, Flexible Fitting, Regular Ventilation
2. GOGGLES, Flexible Fitting, Hooded Ventilation
3. GOGGLES, Cushioned Fitting, Rigid Body
*4. SPECTACLES, Metal Frame, with Sideshields
*5. SPECTACLES, Plastic Frame, with Sideshields
*6. SPECTACLES, Metal-Plastic Frame, with Sideshields
** 7. WELDING GOGGLES, Eyecup Type, Tinted Lenses (Illustrated)
7A. CHIPPING GOGGLES, Eyecup Type, Clear Safety Lenses (Not Illustrated)
** 8. WELDING GOGGLES, Coverspec Type Tinted Lenses (Illustrated)
8A. CHIPPING GOGGLES, Coverspec Type, Clear Safety Lenses (Not Illustrated)
** 9. WELDING GOGGLES, Coverspec Type, Tinted Plate Lens
10. FACE SHIELD (Available with Plastic or Mesh Window)
**11. WELDING HELMETS

*Non-side shield spectacles are available for limited hazard use requiring only frontal protection.

**See Table E-2, in paragraph (b) of this section, Filter Lens Shade Numbers for Protection Against Radiant Energy.

APPLICATIONS

Operation	Hazards	Recommended Protectors: Bold Type Numbers Signify Preferred Protection
Acetylene—Burning, Acetylene—Cutting, Acetylene—Welding.	Sparks, harmful rays, molten metal, flying particles.	7, 8, 9.
Chemical Handling	Splash, acid burns, fumes.	2, 10 (For severe exposure add 10 over 2).
Chipping	Flying particles	1, 3, 4, 5, 6, 7A, 8A.
Electric (arc) welding	Sparks, intense rays, molten metal.	9, 11, (11 in combination with 4, 5, 6, in tinted lenses, advisable).
Furnace operations	Glare, heat, molten metal.	7, 8, 9 (For severe exposure add 10).
Grinding—Light	Flying particles	1, 3, 4, 5, 6, 10.
Grinding—Heavy	Flying particles	1 , 3, 7A, 8A (For severe exposure add 10).
Laboratory	Chemical splash, glass breakage.	2 (10 when in combination with 4, 5, 6).
Machining	Flying particles	1, 3, 4, 5, 6, 10.
Molten metals	Heat, glare, sparks, splash.	7, 8, (10 in combination with 4, 5, 6, in tinted lenses).
Spot welding	Flying particles, sparks	1, 3, 4, 5, 6, 10.

[4510-26-M]

(b) *Protection against radiant energy*—(1) *Selection of shade numbers for welding filter.* Table E-2 shall be used as a guide for the selection of the proper shade numbers of filter lenses or plates used in welding. Shades more dense than those listed may be used to suit the individual's needs.

TABLE E-2—FILTER LENS SHADE NUMBERS FOR PROTECTION AGAINST RADIANT ENERGY

Welding operation	*Shade number*
Shielded metal-arc welding 1/16-, 3/32-, 1/8-, 5/32-inch diameter electrodes	10
Gas-shielded arc welding (nonferrous) 1/16-, 3/32-, 1/8-, 5/32-inch diameter electrodes	11
Gas-shielded arc welding (ferrous) 1/16-, 3/32-, 1/8-, 5/32-inch diameter electrodes	12
Shielded metal-arc welding 3/16-, 7/32-, 1/4-inch diameter electrodes	12
5/16-, 3/8-inch diameter electrodes	14
Atomic hydrogen welding	10-14
Carbon-arc welding	14
Soldering	2
Torch brazing	3 or 4
Light cutting, up to 1 inch	3 or 4
Medium cutting, 1 inch to 6 inches	4 or 5
Heavy cutting, over 6 inches	5 or 6
Gas welding (light), up to 1/8-inch	4 or 5
Gas welding (medium), 1/8-inch to 1/2-inch	5 or 6
Gas welding (heavy), over 1/2-inch	6 or 8

(2) *Laser protection.* (i) Employees whose occupation or assignment requires exposure to laser beams shall be furnished suitable laser safety goggles which will protect for the specific wavelength of the laser and be of optical density (O.D.) adequate for the energy involved. Table E-3 lists the maximum power or energy density for which adequate protection is afforded by glasses of optical densities from 5 through 8.

TABLE E-3—SELECTING LASER SAFETY GLASS

INTENSITY	ATTENUATION	
CW maximum power density (watts/cm^2)	Optical density (O.D.)	Attenuation factor
10^{-2}	5	10^5
10^{-1}	6	10^6
1.0	7	10^7
10.0	8	10^8

Output levels falling between lines in this table shall require the higher optical density.

(ii) All protective goggles shall bear a label identifying the following data:

(*a*) The laser wavelengths for which use is intended:

(*b*)The optical density of those wavelengths;

(*c*) The visible light transmission.

§ 1926.103 Respiratory protection.

(a) *General.* (1) In emergencies, or when controls required by Subpart D of this part either fail or are inadequate to prevent harmful exposure to employees, appropriate respiratory protective devices shall be provided by the employer and shall be used.

(2) Respiratory protective devices shall be approved by the U.S. Bureau of Mines or acceptable to the U.S. Department of Labor for the specific contaminant to which the employee is exposed.

(b) *Respirator selection.* (1) The chemical and physical properties of the contaminant, as well as the toxicity and concentration of the hazardous material, shall be considered in selecting the proper respirators.

(2) The nature and extent of the hazard, work requirements, and conditions, as well as the limitations and characteristics of the available respirators, shall also be factors considered in making the proper selection.

(3) The following table lists the types of respirators required for protection in dangerous atmospheres:

TABLE E-4.—SELECTION OF RESPIRATORS

Hazard	Respirator (See Note)
Oxygen deficiency	Self-contained breathing apparatus. Hose mask with blower. Combination air-line respirator with auxiliary self-contained air supply or an air-storage receiver with alarm.
Gas and vapor contaminants immediately dangerous to life and health.	Self-contained breathing apparatus. Hose mask with blower. Air-purifying, full facepiece respirator with chemical canister (gas mask). Self-rescue mouthpiece respirator (for escape only). Combination air-line respirator with auxiliary self-contained air supply or an air-storage receiver with alarm.
Not immediately dangerous to life and health	Air-line respirator. Hose mask without blower. Air-purifying, half-mask or mouthpiece respirator with chemical cartridge.
Particulate contaminants immediately dangerous to life and health.	Self-contained breathing apparatus. Hose mask with blower. Air-purifying, full facepiece respirator with appropriate filter. Self-rescue mouthpiece respirator (for escape only). Combination air-line respirator with auxiliary self-contained air supply or an air-storage receiver with alarm.
Not immediately dangerous to life and health	Air-purifying, half-mask or mouthpiece respirator with filter pad or cartridge. Air-line respirator. Air-line abrasive-blasting respirator. Hose-mask without blower.
Combination gas, vapor, and particulate contaminants immediately dangerous to life and health.	Self-contained breathing apparatus. Hose mask with blower. Air-purifying, full facepiece respirator with chemical canister and appropriate filter (gas mask with filter). Self-rescue mouthpiece respirator (for escape only). Combination air-line respirator with auxiliary self-contained air supply or an air-storage receiver with alarm.
Not immediately dangerous to life and health	Air-line respirator. Hose mask without blower. Air-purifying, half-mask or mouthpiece respirator with chemical cartridge and appropriate filter.

NOTE: For the purpose of this part, "immediately dangerous to life and health" is defined as a condition that either poses an immediate threat to life and health or an immediate threat of severe exposure to contaminants, such as radioactive materials, which are likely to have adverse delayed effects on health.

(c) *Selection, issuance, use and care of respirators.* (1) Employees required to use respiratory protective equipment approved for use in atmospheres immediately dangerous to life shall be thoroughly trained in its use. Employees required to use other types of respiratory protective equipment shall be instructed in the use and limitations of such equipment.

(2) Respiratory protective equipment shall be inspected regularly and maintained in good condition. Gas mask canisters and chemical cartridges shall be replaced as necessary so as to provide complete protection. Mechanical filters shall be cleaned or replaced as necessary so as to avoid undue resistance to breathing.

(3) Respiratory protective equipment which has been previously used shall be cleaned and disinfected before it is issued by the employer to another employee. Emergency rescue equip-

ment shall be cleaned and disinfected immediately after each use.

> The following requirements from 29 CFR Part 1910 (General Industry) have been identified as applicable to construction (29 CFR 1926.103 *Respiratory protection*), in accordance with their respective scope and definitions.

§ 1910.94 Ventilation.

(a) *Abrasive blasting.*—(1) *Definitions applicable to this paragraph* * * *

(ii) *Abrasive-blasting respirator.* A continuous flow air-line respirator constructed so that it will cover the wearer's head, neck, and shoulders to protect him from rebounding abrasive.

* * * * *

(5) *Personal protective equipment.* (i) Only respiratory protective equipment approved by the Bureau of Mines, U.S. Department of the Interior (see 30 CFR Part 11) shall be used for protection of personnel against dusts produced during abrasive-blasting operations.

(ii) Abrasive-blasting respirators shall be worn by all abrasive-blasting operators: * * *

(B) When using silica sand in manual blasting operations where the nozzle and blast are not physically separated from the operator in an exhaust ventilated enclosure.

* * * * *

(8) *Scope.* This paragraph (a) applies to all operations where an abrasive is forcibly applied to a surface by pneumatic or hydraulic pressure, or by centrifugal force. It does not apply to steam blasting, or steam cleaning, or hydraulic cleaning methods where work is done without the aid of abrasives.

* * * * *

§ 1910.134 Respiratory protection.

(a) *Permissible practice.* (1) In the control of those occupational diseases caused by breathing air contaminated with harmful dusts, fogs, fumes, mists, gases, smokes, sprays, or vapors, the primary objective shall be to prevent atmospheric contamination. This shall be accomplished as far as feasible by accepted engineering control measures (for example, enclosure or confinement of the operation, general and local ventilation, and substitution of less toxic materials). When effective engineering controls are not feasible, or while they are being instituted, appropriate respirators shall be used pursuant to the following requirements.

(2) Respirators shall be provided by the employer when such equipment is necessary to protect the health of the employee. The employer shall provide the respirators which are applicable and suitable for the purpose intended. The employer shall be responsible for the establishment and maintenance of a respiratory protective program which shall include the requirements outlined in paragraph (b) of this section.

(3) The employee shall use the provided respiratory protection in accordance with instructions and training received.

(b) *Requirements for a minimal acceptable program.* (1) Written standard operating procedures governing the selection and use of respirators shall be established.

(2) Respirators shall be selected on the basis of hazards to which the worker is exposed.

(3) The user shall be instructed and trained in the proper use of respirators and their limitations.

(4) Where practicable, the respirators should be assigned to individual workers for their exclusive use.

(5) Respirators shall be regularly cleaned and disinfected. Those issued for the exclusive use of one worker should be cleaned after each day's use, or more often if necessary. Those used by more than one worker shall be thoroughly cleaned and disinfected after each use.

(6) Respirators shall be stored in a convenient, clean, and sanitary location.

(7) Respirators used routinely shall be inspected during cleaning. Worn or deteriorated parts shall be replaced. Respirators for emergency use such as self-contained devices shall be thoroughly inspected at least once a month and after each use.

(8) Appropriate surveillance of work area conditions and degree of employee exposure or stress shall be maintained.

(9) There shall be regular inspection and evaluation to determine the continued effectiveness of the program.

(10) Persons should not be assigned to tasks requiring use of respirators unless it has been determined that they are physically able to perform the work and use the equipment. The local physician shall determine what health and physical conditions are pertinent. The respirator user's medical status should be reviewed periodically (for instance, annually).

(11) Approved or accepted respirators shall be used when they are available. The respirator furnished shall provide adequate respiratory protection against the particular hazard for which it is designed in accordance with standards established by competent authorities. The U.S. Department of Interior, Bureau of Mines, and the U.S. Department of Agriculture are recognized as such authorities. Although respirators listed by the U.S. Department of Agriculture continue to be acceptable for protection against specified pesticides, the U.S. Department of the Interior, Bureau of Mines, is the agency now responsible for testing and approving pesticide respirators.

(c) *Selection of respirators.* Proper selection of respirators shall be made according to the guidance of American National Standard Practices for Respiratory Protection Z88.2-1969.

(d) *Air quality.* (1) Compressed air, compressed oxygen, liquid air, and liquid oxygen used for respiration shall be of high purity. Oxygen shall meet the requirements of the United States Pharmacopoeia for medical or breathing oxygen. Breathing air shall meet at least the requirements of the specification for Grade D breathing air as described in Compressed Gas Association Commodity Specification G-7.1-1966. Compressed oxygen shall not be used in supplied-air respirators or in open circuit self-contained breathing apparatus that have previously used compressed air. Oxygen must never be used with air line respirators.

(2) Breathing air may be supplied to respirators from cylinders or air compressors.

(i) Cylinders shall be tested and maintained as prescribed in the Shipping Container Specification Regulations of the Department of Transportation (49 CFR Part 178).

(ii) The compressor for supplying air shall be equipped with necessary safety and standby devices. A breathing air-type compressor shall be used. Compressors shall be constructed and situated so as to avoid entry of contaminated air into the system and suitable in-line air purifying sorbent beds and filters installed to further assure breathing air quality. A receiver of sufficient capacity to enable the respirator wearer to escape from a contaminated atmosphere in event of compressor failure, and alarms to indicate compressor failure and overheating shall be installed in the system. If an oil-lubricated compressor is used, it shall have a high-temperature or carbon monoxide alarm, or both. If only a high-temperature alarm is used, the air from the compressor shall be frequently tested for carbon monoxide to insure that it meets the specifications in subparagraph (1) of this section.

(3) Air line couplings shall be incompatible with outlets for other gas systems to prevent inadvertent servicing of air line respirators with nonrespirable gases or oxygen.

(4) Breathing gas containers shall be marked in accordance with American National Standard Method of Marking Portable Compressed Gas Containers to Identify the Material Contained, Z48.1-1954; Federal Specification BB-A-1034a, June 21, 1968, Air, Compressed for Breathing Purposes; or Interim Federal Specification GG-B-00675b, April 27, 1965, Breathing Apparatus, Self-Contained.

(e) *Use of respirators.* (1) Standard procedures shall be developed for respirator use. These should include all information and guidance necessary for their proper selection, use, and care. Possible emergency and routine uses of respirators should be anticipated and planned for.

(2) The correct respirator shall be specified for each job. The respirator type is usually specified in the work procedures by a qualified individual supervising the respiratory protective program. The individual issuing them shall be adequately instructed to insure that the correct respirator is issued. Each respirator permanently assigned to an individual should be durably marked to indicate to whom it was assigned. This mark shall not affect the respirator performance in any way. The date of issuance should be recorded.

(3) Written procedures shall be prepared covering safe use of respirators in dangerous atmospheres that might be encountered in normal operations or in emergencies. Personnel shall be familiar with these procedures and the available respirators.

(i) In areas where the wearer, with failure of the respirator, could be overcome by a toxic or oxygen-deficient atmosphere, at least one additional man shall be present. Communications (visual, voice, or signal line) shall be maintained between both or all individuals present. Planning shall be such that one individual will be unaffected by any likely incident and have the proper rescue equipment to be able to assist the other(s) in case of emergency.

(ii) When self-contained breathing apparatus or hose masks with blowers are used in atmospheres immediately dangerous to life or health, standby men must be present with suitable rescue equipment.

(iii) Persons using air line respirators in atmospheres immediately hazardous to life or health shall be equipped with safety harnesses and safety lines for lifting or removing persons from hazardous atmospheres or other and equivalent provisions for the rescue of persons from hazardous atmospheres shall be used. A standby man or men with suitable self-contained breathing apparatus shall be at the nearest fresh air base for emergency rescue.

(4) Respiratory protection is no better than the respirator in use, even though it is worn conscientiously. Frequent random inspections shall be conducted by a qualified individual to assure that respirators are properly selected, used, cleaned, and maintained.

(5) For safe use of any respirator, it is essential that the user be properly instructed in its selection, use, and maintenance. Both supervisors and workers shall be so instructed by competent persons. Training shall provide the men an opportunity to handle the respirator, have it fitted properly, test its face-piece-to-face seal, wear it in normal air for a long familiarity period, and, finally, to wear it in a test atmosphere.

(i) Every respirator wearer shall receive fitting instructions including demonstrations and practice in how the respirator should be worn, how to adjust it, and how to determine if it fits properly. Respirators shall not be worn when conditions prevent a good face seal. Such conditions may be a growth of beard, sideburns, a skull cap that projects under the facepiece, or temple pieces on glasses. Also, the absence of one or both dentures can seriously affect the fit of a facepiece. The worker's diligence in observing these factors shall be evaluated by periodic check. To assure proper protection, the facepiece fit shall be checked by the wearer each time he puts on the respirator. This may be done by following the manufacturer's facepiece fitting instructions.

(ii) Providing respiratory protection for individuals wearing corrective glasses is a serious problem. A proper seal cannot be established if the temple bars of eye glasses extend through the sealing edge of the full facepiece. As a temporary measure, glasses with short temple bars or without temple bars may be taped to the wearer's head. Wearing of contact lenses in contaminated atmospheres with a respirator shall not be allowed. Systems have been developed for mounting corrective lenses inside full facepieces. When a workman must wear corrective lenses as part of the facepiece, the facepiece and lenses shall be fitted by qualified individuals to provide good vision, comfort, and a gas-tight seal.

(iii) If corrective spectacles or goggles are required, they shall be worn so as not to affect the fit of the facepiece. Proper selection of equipment will minimize or avoid this problem.

(f) *Maintenance and care of respirators.* (1) A program for maintenance and care of respirators shall be adjusted to the type of plant, working conditions, and hazards involved, and shall include the following basic services:

(i) Inspection for defects (including a leak check),

(ii) Cleaning and disinfecting,

(iii) Repair,

(iv) Storage.

Equipment shall be properly maintained to retain its original effectiveness.

(2)(i) All respirators shall be inspected routinely before and after each use. A respirator that is not routinely used but is kept ready for emergency use shall be inspected after each use and at least monthly to assure that it is in satisfactory working condition.

(ii) Self-contained breathing apparatus shall be inspected monthly. Air and oxygen cylinders shall be fully charged according to the manufacturer's instructions. It shall be determined that the regulator and warning devices function properly.

(iii) Respirator inspection shall include a check of the tightness of connections and the condition of the facepiece, headbands, valves, connecting tube, and canisters. Rubber or elastomer parts shall be inspected for pliability and signs of deterioration. Stretching and manipulating rubber or elastomer parts with a massaging action will keep them pliable and flexible and prevent them from taking a set during storage.

(iv) A record shall be kept of inspection dates and findings for respirators maintained for emergency use.

(3) Routinely used respirators shall be collected, cleaned, and disinfected as frequently as necessary to insure that proper protection is provided for the wearer. Each worker should be briefed on the

cleaning procedure and be assured that he will always receive a clean and disinfected respirator. Such assurances are of greatest significance when respirators are not individually assigned to workers. Respirators maintained for emergency use shall be cleaned and disinfected after each use.

(4) Replacement or repairs shall be done only by experienced persons with parts designed for the respirator. No attempt shall be made to replace components or to make adjustment or repairs beyond the manufacturer's recommendations. Reducing or admission valves or regulators shall be returned to the manufacturer or to a trained technician for adjustment or repair.

(5) (i) After inspection, cleaning, and necessary repair, respirators shall be stored to protect against dust, sunlight, heat, extreme cold, excessive moisture, or damaging chemicals. Respirators placed at stations and work areas for emergency use should be quickly accessible at all times and should be stored in compartments built for the purpose. The compartments should be clearly marked. Routinely used respirators, such as dust respirators, may be placed in plastic bags. Respirators should not be stored in such places as lockers or tool boxes unless they are in carrying cases or cartons.

(ii) Respirators should be packed or stored so that the facepiece and exhalation valve will rest in a normal position and function will not be impaired by the elastomer setting in an abnormal position.

(iii) Instructions for proper storage of emergency respirators, such as gas masks and self-contained breathing apparatus, are found in "use and care" instructions usually mounted inside the carrying case lid.

(g) *Identification of gas mask canisters.* (1) The primary means of identifying a gas mask canister shall be by means of properly worded labels. The secondary means of identifying a gas mask canister shall be by a color code.

(2) All who issue or use gas masks falling within the scope of this section shall see that all gas mask canisters purchased or used by them are properly labeled and colored in accordance with these requirements before they are placed in service and that the labels and colors are properly maintained at all times thereafter until the canisters have completely served their purpose.

(3) On each canister shall appear in bold letters the following:

(i)—

Canister for ————————————
(Name for atmospheric contaminant)

or

Type N Gas Mask Canister

(ii) In addition, essentially the following wording shall appear beneath the appropriate phrase on the canister label: "For respiratory protection in atmospheres containing not more than ———— percent by volume of ————————."

(4) Canisters having a special high- efficiency filter for protection against radionuclides and other highly toxic particulates shall be labeled with a statement of the type and degree of protection afforded by the filter. The label shall be affixed to the neck end of, or to the gray stripe which is around and near the top of, the canister. The degree of protection shall be marked as the percent of penetration of the canister by a 0.3-micron-diameter dioctyl phthalate (DOP) smoke at a flow rate of 85 liters per minute.

(5) Each canister shall have a label warning that gas masks should be used only in atmospheres containing sufficient oxygen to support life (at least 16 percent by volume), since gas mask canisters are only designed to neutralize or remove contaminants from the air.

(6) Each gas mask canister shall be painted a distinctive color or combination of colors indicated in Table I-1. All colors used shall be such that they are clearly identifiable by the user and clearly distinguishable from one another. The color coating used shall offer a high degree of resistance to chipping, scaling, peeling, blistering, fading, and the effects of the ordinary atmospheres to which they may be exposed under normal conditions of storage and use. Appropriately colored pressure sensitive tape may be used for the stripes.

TABLE 1-1

Atmospheric contaminants to be protected against	*Colors assigned**
Acid gases	White.
Hydrocyanic acid gas	White with ½-inch green stripe completely around the canister near the bottom.
Chlorine gas	White with ½-inch yellow stripe completely around the canister near the bottom.
Organic vapors	Black.
Ammonia gas	Green.
Acid gases and ammonia gas	Green with ½-inch white stripe completely around the canister near the bottom.
Carbon monoxide	Blue.
Acid gases and organic vapors	Yellow.
Hydrocyanic acid gas and chloropicrin vapor	Yellow with ½-inch blue stripe completely around the canister near the bottom.
Acid gases, organic vapors, and ammonia gases.	Brown.
Radioactive materials, excepting tritium and noble gases.	Purple (Magenta).
Particulates (dusts, fumes, mists, fogs, or smokes) in combination with any of the above gases or vapors.	Canister color for contaminant, as designated above, with ½-inch gray stripe completely around the canister near the top.
All of the above atmospheric contaminants	Red with ½-inch gray stripe completely around the canister near the top.

*Gray shall not be assigned as the main color for a canister designed to remove acids or vapors.

NOTE: Orange shall be used as a complete body, or stripe color to represent gases not included in this table. The user will need to refer to the canister label to determine the degree of protection the canister will afford.

§ 1926.104 Safety belts, lifelines, and lanyards.

(a) Lifelines, safety belts, and lanyards shall be used only for employee safeguarding. Any lifeline, safety belt, or lanyard actually subjected to in-service loading, as distinguished from static load testing, shall be immediately removed from service and shall not be used again for employee safeguarding.

(b) Lifelines shall be secured above the point of operation to an anchorage or structural member capable of supporting a minimum dead weight of 5,400 pounds.

(c) Lifelines used on rock-scaling operations, or in areas where the lifeline may be subjected to cutting or abrasion, shall be a minimum of ⅞-inch wire core manila rope. For all other lifeline applications, a minimum of ¾-inch manila or equivalent, with a minimum breaking strength of 5,400 pounds, shall be used.

(d) Safety belt lanyard shall be a minimum of ½-inch nylon, or equivalent, with a maximum length to provide for a fall of no greater than 6 feet. The rope shall have a nominal breaking strength of 5,400 pounds.

(e) All safety belt and lanyard hardware shall be drop forged or pressed steel, cadmium plated in accordance with type 1, Class B plating specified in Federal Specification QQ-P-416. Surface shall be smooth and free of sharp edges.

(f) All safety belt and lanyard hardware, except rivets, shall be capable of withstanding a tensile loading of 4,000 pounds without cracking, breaking, or taking a permanent deformation.

§ 1926.105 Safety nets.

(a) Safety nets shall be provided when workplaces are more than 25 feet above the ground or water surface, or other surfaces where the use of ladders, scaffolds, catch platforms, temporary floors, safety lines, or safety belts is impractical.

(b) Where safety net protection is required by this part, operations shall not be undertaken until the net is in place and has been tested.

(c)(1) Nets shall extend 8 feet beyond the edge of the work surface where employees are exposed and shall be installed as close under the work surface as practical but in no case more than 25 feet below such work surface. Nets shall be hung with sufficient clearance to prevent user's contact with the surfaces or structures below. Such clearances shall be determined by impact load testing.

(2) It is intended that only one level of nets be required for bridge construction.

(d) The mesh size of nets shall not exceed 6 inches by 6 inches. All new nets shall meet accepted performance standards of 17,500 foot-pounds minimum impact resistance as determined and certified by the manufacturers, and shall bear a label of proof test. Edge ropes shall provide a minimum breaking strength of 5,000 pounds.

(e) Forged steel safety hooks or shackles shall be used to fasten the net to its supports.

(f) Connections between net panels shall develop the full strength of the net.

§ 1926.106 Working over or near water.

(a) Employees working over or near water, where the danger of drowning exists, shall be provided with U.S. Coast Guard-approved life jacket or buoyant work vests.

(b) Prior to and after each use, the buoyant work vests or life preservers shall be inspected for defects which would alter their strength or buoyancy. Defective units shall not be used.

(c) Ring buoys with at least 90 feet of line shall be provided and readily available for emergency rescue operations. Distance between ring buoys shall not exceed 200 feet.

(d) At least one lifesaving skiff shall be immediately available at locations where employees are working over or adjacent to water.

§ 1926.107 Definitions applicable to this subpart.

(a) "Contaminant" means any material which by reason of its action upon, within, or to a person is likely to cause physical harm.

(b) "Lanyard" means a rope, suitable for supporting one person. One end is fastened to a safety belt or harness and the other end is secured to a substantial object or a safety line.

(c) "Lifeline" means a rope, suitable for supporting one person, to which a lanyard or safety belt (or harness) is attached.

(d) "O.D." means optical density and refers to the light refractive characteristics of a lens.

(e) "Radiant energy" means energy that travels outward in all directions from its sources.

(f) "Safety belt" means a device, usually worn around the waist which, by reason of its attachment to a lanyard and lifeline or a structure, will prevent a worker from falling.

Subpart F—Fire Protection and Prevention [1]

Sec.

1926.150 Fire protection.
1926.151 Fire prevention.
1926.152 Flammable and combustible liquids.
1910.106 Flammable and combustible liquids.
1926.153 Liquefied petroleum gas (LP-Gas).
1910.110 Storage and handling of LGP's.
1926.154 Temporary heating devices.
1926.155 Definitions applicable to this subpart.

§ 1926.150 Fire protection.

(a) *General requirements.* (1) The employer shall be responsible for the development of a fire protection program to be followed throughout all phases of the construction and demolition work, and he shall provide for the firefighting equipment as specified in this subpart. As fire hazards occur, there shall be no delay in providing the necessary equipment.

(2) Access to all available firefighting equipment shall be maintained at all times.

(3) All firefighting equipment, provided by the employer, shall be conspicuously located.

(4) All firefighting equipment shall be periodically inspected and maintained in operating condition. Defective equipment shall be immediately replaced.

(5) As warranted by the project, the employer shall provide a trained and equipped firefighting organization (Fire Brigade) to assure adequate protection to life.

(b) *Water supply.* (1) A temporary or permanent water supply, of sufficient volume, duration, and pressure, required to properly operate the firefighting equipment shall be made available as soon as combustible materials accumulate.

(2) Where underground water mains are to be provided, they shall be installed, completed, and made available for use as soon as practicable.

(c) *Portable firefighting equipment*—(1) *Fire extinguishers and small hose lines.* (i) A fire extinguisher, rated not less than 2A, shall be provided for each 3,000 square feet of the protected building area, or major fraction thereof. Travel distance from any point of the protected area to the nearest fire extinguisher shall not exceed 100 feet.

(ii) One 55-gallon open drum of water with two fire pails may be substituted for a fire extinguisher having a 2A rating.

(iii) A ½-inch diameter garden-type hose line, not to exceed 100 feet in length and equipped with a nozzle, may be substituted for a 2A-rated fire extinguisher, providing it is capable of discharging a minimum of 5 gallons per minute with a minimum hose stream range of 30 feet horizontally. The garden-type hose lines shall be mounted on conventional racks or reels. The number and location of hose racks or reels shall be such that at least one hose stream can be applied to all points in the area.

(iv) One or more fire extinguishers, rated not less than 2A, shall be provided on each floor. In multistory buildings, at least one fire extinguisher shall be located adjacent to stairway.

(v) Extinguishers and water drums, subject to freezing, shall be protected from freezing.

(vi) A fire extinguisher, rated not less than 10B, shall be provided within 50 feet of wherever more than 5 gallons of flammable or combustible liquids or 5 pounds of flammable gas are being used on the jobsite. This requirement does not apply to the integral fuel tanks of motor vehicles.

(vii) Carbon tetrachloride and other toxic vaporizing liquid fire extinguishers are prohibited.

(viii) Portable fire extinguishers shall be inspected periodically and maintained in accordance with Maintenance and Use of Portable Fire Extinguishers, NFPA No. 10A-1970.

(ix) Fire extinguishers which have been listed or approved by a nationally recognized testing laboratory, shall be used to meet the requirements of this subpart.

(x) Table F-1 may be used as a guide for selecting the appropriate portable fire extinguishers.

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[1] Portions of the listed Part 1910 standards have been identified as applicable to construction.

Table F-1 FIRE EXTINGUISHERS DATA

	WATER TYPE				FOAM	CARBON DIOXIDE	DRY CHEMICAL			
							SODIUM OR POTASSIUM BICARBONATE		MULTI-PURPOSE ABC	
	STORED PRESSURE	CARTRIDGE OPERATED	WATER PUMP TANK	SODA ACID	FOAM	CO 2	CARTRIDGE OPERATED	STORED PRESSURE	STORED PRESSURE	CARTRIDGE OPERATED
CLASS A FIRES WOOD, PAPER, TRASH HAVING GLOWING EMBERS A	YES	YES	YES	YES	YES	NO (BUT WILL CONTROL SMALL SURFACE FIRES)	NO (BUT WILL CONTROL SMALL SURFACE FIRES)	NO (BUT WILL CONTROL SMALL SURFACE FIRES)	YES	YES
CLASS B FIRES FLAMMABLE LIQUIDS, GASOLINE, OIL, PAINTS, GREASE, ETC. B	NO	NO	NO	NO	YES	YES	YES	YES	YES	YES
CLASS C FIRES ELECTRICAL EQUIPMENT C	NO	NO	NO	NO	NO	YES	YES	YES	YES	YES
CLASS D FIRES COMBUSTIBLE METALS D	SPECIAL EXTINGUISHING AGENTS APPROVED BY RECOGNIZED TESTING LABORATORIES									
METHOD OF OPERATION	PULL PIN—SQUEEZE HANDLE	TURN UPSIDE DOWN AND BUMP	PUMP HANDLE	TURN UPSIDE DOWN	TURN UPSIDE DOWN	PULL PIN—SQUEEZE LEVER	RUPTURE CARTRIDGE-SQUEEZE LEVER	PULL PIN-SQUEEZE HANDLE	PULL PIN-SQUEEZE HANDLE	RUPTURE CARTRIDGE-SQUEEZE LEVER
RANGE	30' - 40'	30' - 40'	30' - 40'	30' - 40'	30' - 40'	3' - 8'	5' - 20'	5' - 20'	5' - 20'	5' - 20'
MAINTENANCE	CHECK AIR PRESSURE GAUGE MONTHLY	WEIGH GAS CARTRIDGE-ADD WATER IF REQUIRED ANNUALLY	DISCHARGE AND FILL WITH WATER ANNUALLY	DISCHARGE ANNUALLY RECHARGE	DISCHARGE ANNUALLY RECHARGE	WEIGH SEMI ANNUALLY	WEIGH GAS CARTRIDGE-CHECK CONDITION OF DRY CHEMICAL ANNUALLY	CHECK PRESSURE GAUGE AND CONDITION OF DRY CHEMICAL ANNUALLY	CHECK PRESSURE GAUGE AND CONDITION OF DRY CHEMICAL ANNUALLY	WEIGH GAS CARTRIDGE-CHECK CONDITION OF DRY CHEMICAL ANNUALLY

(2) *Fire hose and connections.* (i) One hundred feet, or less, of 1½-inch hose, with a nozzle capable of discharging water at 25 gallons or more per minute, may be substituted for a fire extinguisher rated not more than 2A in the designated area provided that the hose line can reach all points in the area.

(ii) If fire hose connections are not compatible with local firefighting equipment, the contractor shall provide adapters, or equivalent, to permit connections.

(iii) During demolition involving combustible materials, charged hose lines, supplied by hydrants, water tank trucks with pumps, or equivalent, shall be made available.

(d) *Fixed firefighting equipment*—(1) *Sprinkler protection.* (i) If the facility being constructed includes the installation of automatic sprinkler protection, the installation shall closely follow the construction and be placed in service as soon as applicable laws permit following completion of each story.

(ii) During demolition or alterations, existing automatic sprinkler installations shall be retained in service as long as reasonable. The operation of sprinkler control valves shall be permitted only by properly authorized persons. Modification of sprinkler systems to permit alterations or additional demolition should be expedited so that the automatic protection may be returned to service as quickly as possible. Sprinkler control valves shall be checked daily at close of work to ascertain that the protection is in service.

(2) *Standpipes.* In all structures in which standpipes are required, or where standpipes exist in structures being altered, they shall be brought up as soon as applicable laws permit, and shall be maintained as construction progresses in such a manner that they are always ready for fire protection use. The standpipes shall be provided with Siamese fire department connections on the outside of the structure, at the street level, which shall be conspicuously marked. There shall be at least one standard hose outlet at each floor.

(e) *Fire alarm devices.* (1) An alarm system, e.g., telephone system, siren, etc., shall be established by the employer whereby employees on the site and the local fire department can be alerted for an emergency.

(2) The alarm code and reporting instructions shall be conspicuously posted at phones and at employee entrances.

(f) *Fire cutoffs.* (1) Fire walls and exit stairways, required for the completed buildings, shall be given construction priority. Fire doors, with automatic closing devices, shall be hung on openings as soon as practicable.

(2) Fire cutoffs shall be retained in buildings undergoing alterations or demolition until operations necessitate their removal.

§ 1926.151 Fire prevention.

(a) *Ignition hazards.* (1) Electrical wiring and equipment for light, heat, or power purposes shall be installed in compliance with the requirements of the National Electrical Code, NFPA 70-1971; ANSI C1-1971 (Rev. of 1968), and the requirements of Subpart K of this part.

(2) Internal combustion engine powered equipment shall be so located that the exhausts are well away from combustible materials. When the exhausts are piped to outside the building under construction, a clearance of at least 6 inches shall be maintained between such piping and combustible material.

(3) Smoking shall be prohibited at or in the vicinity of operations which constitute a fire hazard, and shall be conspicuously posted: "No Smoking or Open Flame."

(4) Portable battery powered lighting equipment, used in connection with the storage, handling, or use of flammable gases or liquids, shall be of the type approved for the hazardous locations.

(5) The nozzle of air, inert gas, and steam lines or hoses, when used in the cleaning or ventilation of tanks and vessels that contain hazardous concentrations of flammable gases or vapors, shall be bonded to the tank or vessel shell. Bonding devices shall not be attached or detached in hazardous concentrations of flammable gases or vapors.

(b) *Temporary buildings.* (1) No temporary building shall be erected where it will adversely affect any means of exit.

(2) Temporary buildings, when located within another building or structure, shall be of either noncombustible construction or of combustible construction having a fire resistance of not less than 1 hour.

(3) Temporary buildings, located other than inside another building and not used for the storage, handling, or use of flammable or combustible liquids, flammable gases, explosives, or blasting agents, or similar hazardous occupancies, shall be located at a distance of not less than 10 feet from another building or structure. Groups of temporary buildings, not exceeding 2,000 square feet in aggregate, shall, for the purposes of this part, be considered a single temporary building.

(c) *Open yard storage.* (1) Combustible materials shall be piled with due regard to the stability of piles and in no case higher than 20 feet.

(2) Driveways between and around combustible storage piles shall be at least 15 feet wide and maintained free from accumulation of rubbish, equipment, or other articles or materials. Driveways shall be so spaced that a maximum grid system unit of 50 feet by 150 feet is produced.

(3) The entire storage site shall be kept free from accumulation of unnecessary combustible materials. Weeds and grass shall be kept down and a regular procedure provided for the periodic cleanup of the entire area.

(4) When there is a danger of an underground fire, that land shall not be used for combustible or flammable storage.

(5) Method of piling shall be solid wherever possible and in orderly and regular piles. No combustible material shall be stored outdoors within 10 feet of a building or structure.

(6) Portable fire extinguishing equipment, suitable for the fire hazard involved, shall be provided at convenient, conspicuously accessible locations in the yard area. Portable fire extinguishers, rated not less than 2A, shall be placed so that maximum travel distance to the nearest unit shall not exceed 100 feet.

(d) *Indoor storage.* (1) Storage shall not obstruct, or adversely affect, means of exit.

(2) All materials shall be stored, handled, and piled with due regard to their fire characteristics.

(3) Noncompatible materials, which may create a fire hazard, shall be segregated by a barrier having a fire resistance of at least 1 hour.

(4) Material shall be piled to minimize the spread of fire internally and to permit convenient access for firefighting. Stable piling shall be maintained at all times. Aisle space shall be maintained to safely accommodate the widest vehicle that may be used within the building for firefighting purposes.

(5) Clearance of at least 36 inches shall be maintained between the top level of the stored material and the sprinkler deflectors.

(6) Clearance shall be maintained around lights and heating units to prevent ignition of combustible materials.

(7) A clearance of 24 inches shall be maintained around the path of travel of fire doors unless a barricade is provided, in which case no clearance is needed. Material shall not be stored within 36 inches of a fire door opening.

§ 1926.152 Flammable and combustible liquids.

(a) *General requirements.* (1) Only approved containers and portable tanks shall be used for storage and handling of flammable and combustible liquids. Approved metal safety cans shall be used for the handling and use of flammable liquids in quantities greater than one gallon, except that this shall not apply to those flammable liquid materials which are highly viscid (extremely hard to pour), which may be used and handled in original shipping containers. For quantities of one gallon or less, only the original container or approved metal safety cans shall be used for storage, use, and handling of flammable liquids.

(2) Flammable or combustible liquids shall not be stored in areas used for exits, stairways, or normally used for the safe passage of people.

(b) *Indoor storage of flammable and combustible liquids.* (1) No more than 25 gallons of flammable or combustible liquids shall be stored in a room outside of an approved storage cabinet. For storage of liquefied petroleum gas, see § 1926.153.

(2) Quantities of flammable and combustible liquid in excess of 25 gallons shall be stored in an acceptable or approved cabinet meeting the following requirements:

(i) Acceptable wooden storage cabinets shall be constructed in the following manner, or equivalent: The bottom, sides, and top shall be constructed of an exterior grade of plywood at least 1 inch in thickness, which shall not break down or delaminate under standard fire test conditions. All joints shall be rabbeted and shall be fastened in two directions with flathead wood screws. When more than one door is used, there shall be a rabbeted overlap of not less than 1 inch. Steel hinges shall be mounted in such a manner as to not lose their holding capacity due to loosening or burning out of the screws when subjected to fire. Such cabinets shall be painted inside and out with fire retardant paint.

(ii) Approved metal storage cabinets will be acceptable.

(iii) Cabinets shall be labeled in conspicuous lettering, "Flammable—Keep Fire Away."

(3) Not more than 60 gallons of flammable or 120 gallons of combustible liquids shall be stored in any one storage cabinet. Not more than three such cabinets may be located in a single storage area. Quantities in excess of this shall be stored in an inside storage room.

(4)(i) Inside storage rooms shall be constructed to meet the required fire-resistive rating for their use. Such construction shall comply with the test specifications set forth in Standard Methods of Fire Test of Building Construction and Material, NFPA 251-1969.

(ii) Where an automatic extinguishing system is provided, the system shall be designed and installed in an approved manner. Openings to other rooms or buildings shall be provided with noncombustible liquid-tight raised sills or ramps at least 4 inches in height, or the floor in the storage area shall be at least 4 inches below the surrounding floor. Openings shall be provided with approved self-closing fire doors. The room shall be liquid-tight where the walls join the floor. A permissible alternate to the sill or ramp is an open-grated trench, inside of the room, which drains to a safe location. Where other portions of the building or other buildings are exposed, windows shall be protected as set forth in the Standard for Fire Doors and Windows, NFPA No. 80-1970, for Class E or F openings. Wood of at least 1-inch nominal thickness may be used for shelving, racks, dunnage, scuffboards, floor overlay, and similar installations.

(iii) Materials which will react with water and create a fire hazard shall not be stored in the same room with flammable or combustible liquids.

(iv) Storage in inside storage rooms shall comply with Table F-2 following:

TABLE F-2

Fire protection provided	Fire resistance	Maximum Size	Total allowable quantities gals./sq.ft./floor area
Yes	2 hrs	500 sq. ft	10
No	2 hrs	500 sq. ft	4
Yes	1 hr	150 sq. ft	5
No	1 hr	150 sq. ft	2

NOTE: Fire protection system shall be sprinkler, water spray, carbon dioxide or other system approved by a nationally recognized testing laboratory for this purpose.

(v) Electrical wiring and equipment located in inside storage rooms shall be approved for Class I, Division 1, Hazardous Locations. For definition of Class I, Division 1, Hazardous Locations, see § 1926.404.

(vi) Every inside storage room shall be provided with either a gravity or a mechanical exhausting system. Such system shall commence not more than 12 inches above the floor and be designed to provide for a complete change of air within the room at least 6 times per hour. If a mechanical exhausting system is used, it shall be controlled by a switch located outside of the door. The ventilating equipment and any lighting fixtures shall be operated by the same switch. An electric pilot light shall be installed adjacent to the switch if flammable liquids are dispensed within the room. Where gravity ventilation is provided, the fresh air intake, as well as the exhausting outlet from the room, shall be on the exterior of the building in which the room is located.

(vii) In every inside storage room there shall be maintained one clear aisle at least 3 feet wide. Containers over 30 gallons capacity shall not be stacked one upon the other.

(viii) Flammable and combustible liquids in excess of that permitted in inside storage rooms shall be stored outside of buildings in accordance with paragraph (c) of this section.

(c) *Storage outside buildings.* (1) Storage of containers (not more than 60 gallons each) shall not exceed 1,100 gallons in any one pile or area. Piles or groups of containers shall be separated by a 5-foot clearance. Piles or groups of containers shall not be nearer than 20 feet to a building.

(2) Within 200 feet of each pile of containers, there shall be a 12-foot-wide access way to permit approach of fire control apparatus.

(3) The storage area shall be graded in a manner to divert possible spills away from buildings or other exposures, or shall be surrounded by a curb or earth dike at least 12 inches high. When curbs or dikes are used, provisions shall be made for draining off accumulations of ground or rain water, or spills of flammable or combustible liquids. Drains shall terminate at a safe location and shall be accessible to operation under fire conditions.

(4) Outdoor portable tank storage: (i) Portable tanks shall not be nearer than 20 feet from any building. Two or more portable tanks, grouped together, having a combined capacity in excess of 2,200 gallons, shall be separated by a 5-foot-clear area. Individual portable tanks exceeding 1,100 gallons shall be separated by a 5-foot-clear area.

(ii) Within 200 feet of each portable tank, there shall be a 12-foot-wide access way to permit approach of fire control apparatus.

(5) Storage areas shall be kept free of weeds, debris, and other combustible material not necessary to the storage.

(6) Portable tanks, not exceeding 660 gallons, shall be provided with emergency venting and other devices, as required by chapters III and IV of NFPA 30-1969, The Flammable and Combustible Liquids Code.

(7) Portable tanks, in excess of 660 gallons, shall have emergency venting and other devices, as required by chapters II and III of The Flammable and Combustible Liquids Code, NFPA 30-1969.

(d) *Fire control for flammable or combustible liquid storage.* (1) At least one portable fire extinguisher, having a rating of not less than 20-B units, shall be located outside of, but not more than 10 feet from, the door opening into any room used for storage of more than 60 gallons of flammable or combustible liquids.

(2) At least one portable fire extinguisher having a rating of not less than 20-B units shall be located not less than 25 feet, nor more than 75 feet, from any flammable liquid storage area located outside.

(3) When sprinklers are provided, they shall be installed in accordance with the Standard for the Installation of Sprinkler Systems, NFPA 13-1969.

(4) At least one portable fire extinguisher having a rating of not less than 20-B:C units shall be provided on all tank trucks or other vehicles used for transporting and/or dispensing flammable or combustible liquids.

(e) *Dispensing liquids.* (1) Areas in which flammable or combustible liquids are transferred at one time, in quantities greater than 5 gallons from one tank or container to another tank or container, shall be separated from other operations by 25-feet distance or by construction having a fire resistance of at least 1 hour. Drainage or other means shall be provided to control spills. Adequate natural or mechanical ventilation shall be provided to maintain the concentration of flammable vapor at or below 10 percent of the lower flammable limit.

(2) Transfer of flammable liquids from one container to another shall be done only when containers are electrically interconnected (bonded).

(3) Flammable or combustible liquids shall be drawn from or transferred into vessels, containers, or tanks within a building or outside only through a closed piping system, from safety cans, by means of a device drawing through the top, or from a container, or portable tanks, by gravity or pump, through an approved self-closing valve. Transferring by means of air pressure on the container or portable tanks is prohibited.

(4) The dispensing units shall be protected against collision damage.

(5) Dispensing devices and nozzles for flammable liquids shall be of an approved type.

(f) *Handling liquids at point of final use.* (1) Flammable liquids shall be kept in closed containers when not actually in use.

(2) Leakage or spillage of flammable or combustible liquids shall be disposed of promptly and safely.

(3) Flammable liquids may be used only where there are no open flames or other sources of ignition within 50 feet of the operation, unless conditions warrant greater clearance.

(g) *Service and refueling areas.* (1) Flammable or combustible liquids shall be stored in approved closed containers, in tanks located underground, or in aboveground portable tanks.

(2) The tank trucks shall comply with the requirements covered in the Standard for Tank Vehicles for Flammable and Combustible Liquids, NFPA No. 385-1966.

(3) The dispensing hose shall be an approved type.

(4) The dispensing nozzle shall be an approved automatic-closing type without a latch-open device.

(5) Underground tanks shall not be abandoned.

(6) Clearly identified and easily accessible switch(es) shall be provided at a location remote from dispensing devices to shut off the power to all dispensing devices in the event of an emergency.

(7)(i) Heating equipment of an approved type may be installed in the lubrication or service area where there is no dispensing or transferring of flammable liquids, provided the bottom of the heating unit is at least 18 inches above the floor and is protected from physical damage.

(ii) Heating equipment installed in lubrication or service areas, where flammable liquids are dispensed, shall be of an approved type for garages, and shall be installed at least 8 feet above the floor.

(8) There shall be no smoking or open flames in the areas used for fueling, servicing fuel systems for internal combustion engines, receiving or dispensing of flammable or combustible liquids.

(9) Conspicuous and legible signs prohibiting smoking shall be posted.

(10) The motors of all equipment being fueled shall be shut off during the fueling operation.

(11) Each service or fueling area shall be provided with at least one fire extinguisher having a rating of not less than 20-B:C located so that an extinguisher will be within 75 feet of each pump, dispenser, underground fill pipe opening, and lubrication or service area.

> The following requirements from 29 CFR Part 1910 (General Industry) have been identified as applicable to construction (29 CFR 1926.152 *Flammable and combustible liquids*), in accordance with their respective scope and definitions.

§ 1910.106 Flammable and combustible liquids.

* * * * *

(g) *Service stations*—(1) *Storage and handling*—(i) *General provisions.* * * *

(G) Accurate inventory records shall be maintained and reconciled on all class I liquid storage tanks for possible indication of leakage from tanks or piping.

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(4) *Marine service stations*—(1) *Dispensing.* (*a*) The dispensing area shall be located away from other structures so as to provide room for safe ingress and egress of craft to be fueled. Dispensing units shall in all cases be at least 20 feet from any activity involving fixed sources of ignition.

(*b*) Dispensing shall be by approved dispensing units with or without integral pumps and may be located on open piers, wharves, or floating docks or on shore or on piers of the solid fill type.

(*c*) Dispensing nozzles shall be automatic-closing without a hold-open latch.

(ii) *Tanks and pumps.* (*a*) Tanks, and pumps not integral with the dispensing unit, shall be on shore or on a pier of the solid fill type, except as provided in subdivision (b) and (c) of this subdivision.

(*b*) Where shore location would require excessively long supply lines to dispensers, tanks may be installed on a pier provided that applicable portions of paragraph (b) of this section relative to spacing, diking, and piping are complied with and the quantity so stored does not exceed 1,100 gallons aggregate capacity.

(*c*) Shore tanks supplying marine service stations may be located above ground, where rock ledges or high water table make underground tanks impractical.

(*d*) Where tanks are at an elevation which would produce gravity head on the dispensing unit, the tank outlet shall be equipped with a pressure control valve positioned adjacent to and outside the tank block valve specified in paragraph (b)(2)(ix)(*b*) of this section, so adjusted that liquid cannot flow by gravity from the tank in case of piping or hose failure.

(iii) *Piping.* (*a*) Piping between shore tanks and dispensing units shall be as described in paragraph (c) of this section, except that, where dispensing is from a floating structure, suitable lengths of oil-resistant flexible hose may be employed between the shore piping and the piping on the floating structure as made necessary by change in water level or shoreline.

(*b*) A readily accessible valve to shut off the supply from shore shall be provided in each pipeline at or near the approach to the pier and at the shore end of each pipeline adjacent to the point where flexible hose is attached.

(*c*) Piping shall be located so as to be protected from physical damage.

(*d*) Piping handling Class I liquids shall be grounded to control stray currents.

* * * * *

(j) *Scope.* This section applies to the handling, storage, and use of flammable and combustible liquids with a flash point below 200° F. This section does not apply to: (1) Bulk transportation of flammable and combustible liquids;

(2) Storage, handling, and use of fuel oil tanks and containers connected with oil burning equipment;

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§ 1910.106 Flammable and combustible liquids.

(a) *Definitions.* * * *

(22) Marine service station shall mean that portion of a property where flammable or combustible liquids used as fuels are stored and dispensed from fixed equipment on shore, piers, wharves, or floating docks into the fuel tanks of self-propelled craft, and shall include all facilities used in connection therewith.

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§ 1926.153 Liquefied petroleum gas (LP-Gas).

(a) *Approval of equipment and systems.* (1) Each system shall have containers, valves, connectors, manifold valve assemblies, and regulators of an approved type.

(2) All cylinders shall meet the Department of Transportation specification identification requirements published in 49 CFR Part 178, Shipping Container Specifications.

(b) *Welding on LP-Gas containers.* Welding is prohibited on containers.

(c) *Container valves and container accessories.* (1) Valves, fittings, and accessories connected directly to the container, including primary shut off valves, shall have a rated working pressure of at least 250 p.s.i.g. and shall be of material and design suitable for LP-Gas service.

(2) Connections to containers, except safety relief connections, liquid level gauging devices, and plugged openings, shall have shutoff valves located as close to the container as practicable.

(d) *Safety devices.* (1) Every container and every vaporizer shall be provided with one or more approved safety relief valves or devices. These valves shall be arranged to afford free vent to the outer air with discharge not less than 5 feet horizontally away from any opening into a building which is below such discharge.

(2) Shutoff valves shall not be installed between the safety relief device and the container, or the equipment or piping to which the safety relief device is connected, except that a shutoff valve may be used where the arrangement of this valve is such that full required capacity flow through the safety relief device is always afforded.

(3) Container safety relief devices and regulator relief vents shall be located not less than 5 feet in any direction from air openings into sealed combustion system appliances or mechanical ventilation air intakes.

(e) *Dispensing.* (1) Filling of fuel containers for trucks or motor vehicles from bulk storage containers shall be performed not less than 10 feet from the nearest masonry-walled building, or not less than 25 feet from the nearest building or other construction and, in any event, not less than 25 feet from any building opening.

(2) Filling of portable containers or containers mounted on skids from storage containers shall be performed not less than 50 feet from the nearest building.

(f) *Requirements for appliances.* (1) LP-Gas consuming appliances shall be approved types.

(2) Any appliance that was originally manufactured for operation with a gaseous fuel other than LP-Gas, and is in good condition, may be used with LP-Gas only after it is properly converted, adapted, and tested for performance with LP-Gas before the appliance is placed in use.

(g) *Containers and regulating equipment installed outside of buildings or structures.* Containers shall be upright upon firm foundations or otherwise firmly secured. The possible effect on the outlet piping of settling shall be guarded against by a flexible connection or special fitting.

(h) *Containers and equipment used inside of buildings or structures.* (1) When operational requirements make portable use of containers necessary, and their location outside of buildings or structures is impracticable, containers and equipment shall be permitted to be used inside of buildings or structures in accordance with subparagraphs (2) through (11) of this paragraph.

(2) "Containers in use" means connected for use.

(3) Systems utilizing containers having a water capacity greater than 2½ pounds (nominal 1 pound LP-Gas capacity) shall be equipped with excess flow valves. Such excess flow valves shall be either integral with the container valves or in the connections to the container valve outlets.

(4) Regulators shall be either directly connected to the container valves or to manifolds connected to the container valves. The regulator shall be suitable for use with LP-Gas. Manifolds and fittings connecting containers to pressure regulator inlets shall be designed for at least 250 p.s.i.g. service pressure.

(5) Valves on containers having water capacity greater than 50 pounds (nominal 20 pounds LP-Gas capacity) shall be protected from damage while in use or storage.

(6) Aluminum piping or tubing shall not be used.

(7) Hose shall be designed for a working pressure of at least 250 p.s.i.g. Design, construction, and performance of hose, and hose connections shall have their suitability determined by listing by a nationally recognized test-

ing agency. The hose length shall be as short as practicable. Hoses shall be long enough to permit compliance with spacing provisions of subparagraphs (1)-(13) of this paragraph, without kinking or straining, or causing hose to be so close to a burner as to be damaged by heat.

(8) Portable heaters, including salamanders, shall be equipped with an approved automatic device to shut off the flow of gas to the main burner, and pilot if used, in the event of flame failure. Such heaters, having inputs above 50,000 B.t.u. per hour, shall be equipped with either a pilot, which must be lighted and proved before the main burner can be turned on, or an electrical ignition system.

NOTE: The provisions of this subparagraph do not apply to portable heaters under 7,500 B.t.u. per hour input when used with containers having a maximum water capacity of 2½ pounds.

(9) Container valves, connectors, regulators, manifolds, piping, and tubing shall not be used as structural supports for heaters.

(10) Containers, regulating equipment, manifolds, pipe, tubing, and hose shall be located to minimize exposure to high temperatures or physical damage.

(11) Containers having a water capacity greater than 2½ pounds (nominal 1 pound LP-Gas capacity) connected for use shall stand on a firm and substantially level surface and, when necessary, shall be secured in an upright position.

(12) The maximum water capacity of individual containers shall be 245 pounds (nominal 100 pounds LP-Gas capacity).

(13) For temporary heating, heaters (other than integral heater-container units) shall be located at least 6 feet from any LP-Gas container. This shall not prohibit the use of heaters specifically designed for attachment to the container or to a supporting standard, provided they are designed and installed so as to prevent direct or radiant heat application from the heater onto the containers. Blower and radiant type heaters shall not be directed toward any LP-Gas container within 20 feet.

(14) If two or more heater-container units, of either the integral or nonintegral type, are located in an unpartitioned area on the same floor, the container or containers of each unit shall be separated from the container or containers of any other unit by at least 20 feet.

(15) When heaters are connected to containers for use in an unpartitioned area on the same floor, the total water capacity of containers, manifolded together for connection to a heater or heaters, shall not be greater than 735 pounds (nominal 300 pounds LP-Gas capacity). Such manifolds shall be separated by at least 20 feet.

(16) Storage of containers awaiting use shall be in accordance with paragraphs (j) and (k) of this section.

(i) *Multiple container systems.* (1) Valves in the assembly of multiple container systems shall be arranged so that replacement of containers can be made without shutting off the flow of gas in the system. This provision is not to be construed as requiring an automatic changeover device.

(2) Heaters shall be equipped with an approved regulator in the supply line between the fuel cylinder and the heater unit. Cylinder connectors shall be provided with an excess flow valve to minimize the flow of gas in the event the fuel line becomes ruptured.

(3) Regulators and low-pressure relief devices shall be rigidly attached to the cylinder valves, clyinders, supporting standards, the building walls, or otherwise rigidly secured, and shall be so installed or protected from the elements.

(j) *Storage of LPG containers.* Storage of LPG within buildings is prohibited.

(k) *Storage outside of buildings.* (1) Storage outside of buildings, for containers awaiting use, shall be located from the nearest building or group of buildings, in accordance with the following:

TABLE F-3

Quantity of LP-Gas stored:	Distance (feet)
500 lbs. or less	0
501 to 6,000 lbs	10
6,001 to 10,000 lbs	20
Over 10,000 lbs	25

(2) Containers shall be in a suitable ventilated enclosure or otherwise protected against tampering.

(l) *Fire protection.* Storage locations shall be provided with at least one approved portable fire extinguisher having a rating of not less than 20-B:C.

> The following requirements from 29 CFR Part 1910 (General Industry) have been identified as applicable to construction (29 CFR 1926.153 *Liquid petroleum gas (LP-gas)*), in accordance with their respective scope and definitions.

§ 1910.110 Storage and handling of liquefied petroleum gases.

(a) *Definitions as used in this section.*

(1) API-ASME container—A container constructed in accordance with the requirements of *paragraph (b)(3)(iii) of this section.*

(2) ASME container—A container constructed in accordance with the requirements of *paragraph (b)(3)(i) of this section.*

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(4) Containers—All vessels, such as tanks, cylinders of drums, used for transportation or storing liquefied petroleum gases.

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* * * * *

(b) * * *

(5) * * *

(iii) When LP-Gas and one or more other gases are stored or used in the same area, the containers shall be marked to identify their content. Marking shall be in compliance with American National Standard Z48.1-1954, "Method of Marking Portable Compressed Gas Containers To Identify the Material Contained."

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(d) *Systems utilizing containers other than DOT containers*—(1) *Application.* This paragraph applies specifically to systems utilizing storage containers other than those constructed in accordance with DOT specifications. Paragraph (b) of this section applies to this paragraph unless otherwise noted in *paragraph (b) of this section.*

(2) *Design pressure and classification of storage containers.* Storage containers shall be designed and classified in accordance with Table H-31.

TABLE H-31

Container type	For gases with vapor press. Not to exceed lb. per sq. in. gage at 100° F. (37.8° C.)	Minimum design pressure of container, lb. per sq. in. gage: 1949 and earlier editions of ASME Code (Par. U-68, U-69)	Minimum design pressure of container, lb. per sq. in. gage: 1949 edition of ASME Code (Par. U-200, U-201); 1950, 1952, 1956, 1959, 1962, 1965, and 1968 (Division I) editions of ASME Code; All editions of API-ASME Code[3]
[1]80	[1]80	[1]80	[1]100
100	100	100	125
125	125	125	156
150	150	150	187
175	175	175	219
[2]200	215	200	250

[1] New storage containers of the 80 type have not been authorized since Dec. 31, 1947.

[2] Container type may be increased by increments of 25. The minimum design pressure of containers shall be 100% of the container type designation when constructed under 1949 or earlier editions of the ASME Code (Par. U-68 and U-69). The minimum design pressure of containers shall be 125% of the container type designation when constructed under: (1) the 1949 ASME Code (Par. U-200 and U-201), (2) 1950, 1952, 1956, 1959, 1962, 1965, and 1968 (Division I) editions of the ASME Code, and (3) all editions of the API-ASME Code.

[3] Construction of containers under the API-ASME Code is not authorized after July 1, 1961.

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(7) * * *

(vii) Containers with foundations attached (portable or semiportable containers with suitable steel "runners" or "skids" and popularly known in the industry as "skid tanks") shall be designed, installed, and used in accordance with these rules subject to the following provisions:

(*a*) If they are to be used at a given general location for a temporary period not to exceed 6 months they need not have fire-resisting foundations or saddles but shall have adequate ferrous metal supports.

(*b*) They shall not be located with the outside bottom of the container shell more than 5 feet above the surface of the ground unless fire-resisting supports are provided.

(*c*) The bottom of the skids shall not be less than 2 inches or more than 12 inches below the outside bottom of the container shell.

(*d*) Flanges, nozzles, valves, fittings, and the like, having communication with the interior of the container, shall be protected against physical damage.

(*e*) When not permanently located on fire-resisting foundations, piping connections shall be sufficiently flexible to minimize the possibility of breakage or leakage of connections if the container settles, moves, or is otherwise displaced.

(*f*) Skids, or lugs for attachment of skids, shall be secured to the container in accordance with the code or rules under which the container is designed and built (with a minimum factor of safety of four) to withstand loading in any direction equal to four times the weight of the container and attachments when filled to the maximum permissible loaded weight.

(viii) Field welding where necessary shall be made only on saddle plates or brackets which were applied by the manufacturer of the tank.

* * * * *

(10) *Damage from vehicles.* When damage to LP-Gas systems from vehicular traffic is a possibility, precautions against such damage shall be taken.

* * * * *

§ 1926.154 Temporary heating devices.

(a) *Ventilation.* (1) Fresh air shall be supplied in sufficient quantities to maintain the health and safety of workmen. Where natural means of fresh air supply is inadequate, mechanical ventilation shall be provided.

(2) When heaters are used in confined spaces, special care shall be taken to provide sufficient ventilation in order to ensure proper combustion, maintain the health and safety of workmen, and limit temperature rise in the area.

(b) *Clearance and mounting.* (1) Temporary heating devices shall be installed to provide clearance to combustible material not less than the amount shown in Table F-4.

(2) Temporary heating devices, which are listed for installation with lesser clearances than specified in Table F-4, may be installed in accordance with their approval.

TABLE F-4

Heating appliances	Minimum clearance, (inches)		
	Sides	Rear	Chimney connector
Room heater, circulating type ...	12	12	18
Room heater, radiant type..........	36	36	18

(3) Heaters not suitable for use on wood floors shall not be set directly upon them or other combustible materials. When such heaters are used, they shall rest on suitable heat insulating material or at least 1-inch concrete, or equivalent. The insulating material shall extend beyond the heater 2 feet or more in all directions.

(4) Heaters used in the vicinity of combustible tarpaulins, canvas, or similar coverings shall be located at least 10 feet from the coverings. The coverings shall be securely fastened to prevent ignition or upsetting of the heater due to wind action on the covering or other material.

(c) *Stability.* Heaters, when in use, shall be set horizontally level, unless otherwise permitted by the manufacturer's markings.

(d) *Solid fuel salamanders.* Solid fuel salamanders are prohibited in buildings and on scaffolds.

(e) *Oil-fired heaters.* (1) Flammable liquid-fired heaters shall be equipped with a primary safety control to stop the flow of fuel in the event of flame failure. Barometric or gravity oil feed shall not be considered a primary safety control.

(2) Heaters designed for barometric or gravity oil feed shall be used only with the integral tanks.

(3) [Revoked]

(4) Heaters specifically designed and approved for use with separate supply tanks may be directly connected for gravity feed, or an automatic pump, from a supply tank.

§ 1926.155 Definitions applicable to this subpart.

(a) "Approved", for the purpose of this subpart, means equipment that has been listed or approved by a nationally recognized testing laboratory such as Factory Mutual Engineering Corp., or Underwriters' Laboratories, Inc., or Federal agencies such as Bureau of Mines, or U.S. Coast Guard, which issue approvals for such equipment.

(b) "Closed container" means a container so sealed by means of a lid or other device that neither liquid nor vapor will escape from it at ordinary temperatures.

(c) "Combustible liquids" mean any liquid having a flash point at or above 140° F. (60° C.), and below 200° F. (93.4° C.).

(d) "Combustion" means any chemical process that involves oxidation sufficient to produce light or heat.

(e) "Fire brigade" means an organized group of employees that are knowledgeable, trained, and skilled in the safe evacuation of employees during emergency situations and in assisting in fire fighting operations.

(f) "Fire resistance" means so resistant to fire that, for specified time and under conditions of a standard heat intensity, it will not fail structurally and will not permit the side away from the fire to become hotter than a specified temperature. For purposes of this part, fire resistance shall be determined by the Standard Methods of

Fire Tests of Building Construction and Materials, NFPA 251-1969.

(g) "Flammable" means capable of being easily ignited, burning intensely, or having a rapid rate of flame spread.

(h) "Flammable liquids" means any liquid having a flash point below 140° F. and having a vapor pressure not exceeding 40 pounds per square inch (absolute) at 100° F.

(i) "Flash point" of the liquid means the temperature at which it gives off vapor sufficient to form an ignitable mixture with the air near the surface of the liquid or within the vessel used as determined by appropriate test procedure and apparatus as specified below.

(1) The flash point of liquids having a viscosity less than 45 Saybolt Universal Second(s) at 100° F. (37.8° C.) and a flash point below 175° F. (79.4° C.) shall be determined in accordance with the Standard Method of Test for Flash Point by the Tag Closed Tester, ASTM D-56-69.

(2) The flash point of liquids having a viscosity of 45 Saybolt Universal Second(s) or more at 175° F. (79.4° C.) or higher shall be determined in accordance with the Standard Method of Test for Flash Point by the Pensky Martens Closed Tester, ASTM D-93-69.

(j) "Liquefied petroleum gases," "LPG" and "LP Gas" mean and include any material which is composed predominantly of any of the following hydrocarbons, or mixtures of them, such as propane, propylene, butane (normal butane or iso-butane), and butylenes.

(k) "Portable tank" means a closed container having a liquid capacity more than 60 U.S. gallons, and not intended for fixed installation.

(l) "Safety can" means an approved closed container, of not more than 5 gallons capacity, having a flash-arresting screen, spring-closing lid and spout cover and so designed that it will safely relieve internal pressure when subjected to fire exposure.

(m) "Vapor pressure" means the pressure, measured in pounds per square inch (absolute), exerted by a volatile liquid as determined by the "Standard Method of Test for Vapor Pressure of Petroleum Products (Reid Method)." (ASTM D-323-58).

Subpart G—Signs, Signals, and Barricades

Sec.

1926.200 Accident prevention signs and tags.
1926.201 Signaling
1926.202 Barricades.
1926.203 Definitions applicable to this subpart.

§1926.200 Accident prevention signs and tags.

(a) *General.* Signs and symbols required by this subpart shall be visible at all times when work is being performed, and shall be removed or covered promptly when the hazards no longer exist.

(b) *Danger signs.* (1) Danger signs (see Figure G-1) shall be used only where an immediate hazard exists.

(2) Danger signs shall have red as the predominating color for the upper panel; black outline on the borders; and a white lower panel for additional sign wording.

(c) *Caution signs.* (1) Caution signs (see Figure G-2) shall be used only to warn against potential hazards or to caution against unsafe practices.

Figure G-1

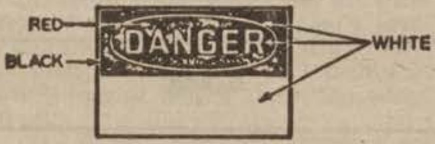
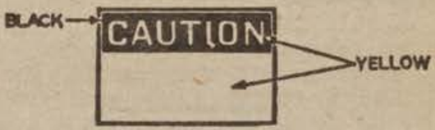


Figure G-2



(2) Caution signs shall have yellow as the predominating color; black upper panel and borders; yellow lettering of "caution" on the black panel; and the lower yellow panel for additional sign wording. Black lettering shall be used for additional wording.

(d) *Exit signs.* Exit signs, when required, shall be lettered in legible red letters, not less than 6 inches high, on a white field and the principal stroke of the letters shall be at least three-fourths inch in width.

(e) *Safety instruction signs.* Safety instruction signs, when used, shall be white with green upper panel with white letters to convey the principal message. Any additional wording on the sign shall be black letters on the white background.

(f) *Directional signs.* Directional signs, other than automotive traffic signs specified in paragraph (g) of this section, shall be white with a black panel and a white directional symbol. Any additional wording on the sign shall be black letters on the white background.

(g) *Traffic signs.* (1) Construction areas shall be posted with legible traffic signs at points of hazard.

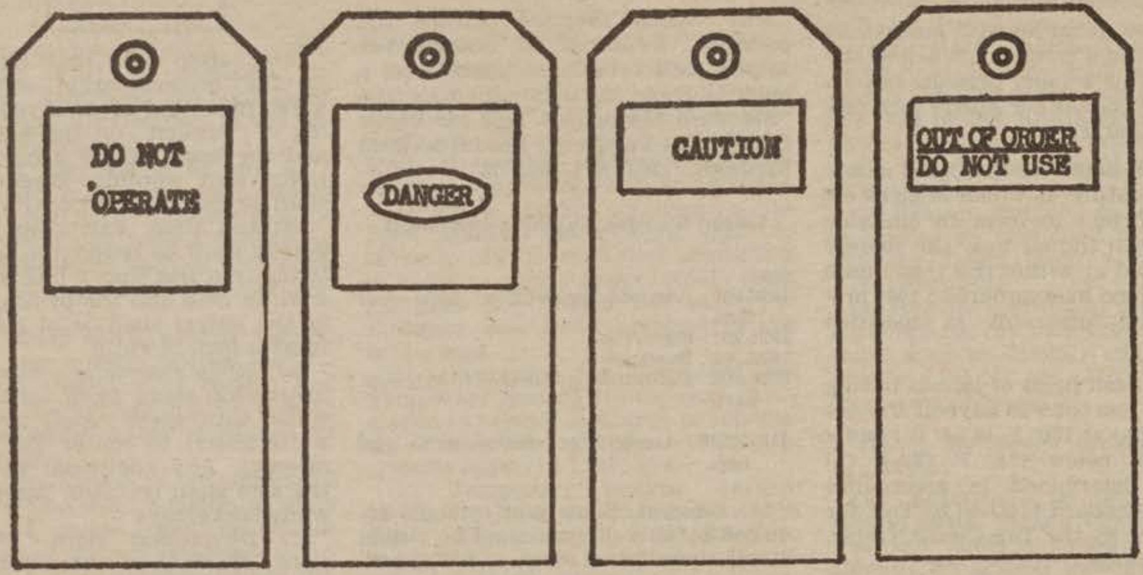
(2) All traffic control signs or devices used for protection of construction workmen shall conform to American National Standards Institute D6.1-1971, Manual on Uniform Traffic Control Devices for Streets and Highways.

(h) *Accident prevention tags.* (1) Accident prevention tags shall be used as a temporary means of warning employees of an existing hazard, such as defective tools, equipment, etc. They shall not be used in place of, or as a substitute for, accident prevention signs.

(2) Specifications for accident prevention tags similar to those in Table G-1 shall apply.

[4510-26-C]

Table G-1



White tag - White letters on red square

White tag - White letters on red oval with a black square

Yellow tag - Yellow letters on a black background

White tag - White letters on black background

Basic Stock (Background)	Safety Colors (Ink)	Copy Specification (Letters)
White	Red	Do Not Operate
White	Black and Red	Danger
Yellow	Black	Caution
White	Black	Out of Order Do Not Use

[4510–26–M]

(i) *Additional rules.* American National Standards Institute (ANSI) Z35.1-1968, Specifications for Accident Prevention Signs, and Z35.2-1968, Specifications for Accident Prevention Tags, contain rules which are additional to the rules prescribed in this section. The employer shall comply with ANSI Z35.1-1968 and Z35.2-1968 with respect to rules not specifically prescribed in this subpart.

§ 1926.201 Signaling.

(a) *Flagmen.* (1) When operations are such that signs, signals, and barricades do not provide the necessary protection on or adjacent to a highway or street, flagmen or other appropriate traffic controls shall be provided.

(2) Signaling directions by flagmen shall conform to American National Standards Institute D6.1-1971, Manual on Uniform Traffic Control Devices for Streets and Highways.

(3) Hand signaling by flagmen shall be by use of red flags at least 18 inches square or sign paddles, and in periods of darkness, red lights.

(4) Flagmen shall be provided with and shall wear a red or orange warning garment while flagging. Warning garments worn at night shall be of reflectorized material.

(b) *Crane and hoist signals.* Regulations for crane and hoist signaling will be found in applicable American National Standards Institute standards.

§ 1926.202 Barricades.

Barricades for protection of employees shall conform to the portions of the American National Standards Institute D6.1-1971, Manual on Uniform Traffic Control Devices for Streets and Highways, relating to barricades.

§ 1926.203 Definitions applicable to this Subpart.

(a) "Barricade" means an obstruction to deter the passage of persons or vehicles.

(b) "Signs" are the warnings of hazard, temporarily or permanently affixed or placed, at locations where hazards exist.

(c) "Signals" are moving signs, provided by workers, such as flagmen, or by devices, such as flashing lights, to warn of possible or existing hazards.

(d) "Tags" are temporary signs, usually attached to a piece of equipment or part of a structure, to warn of existing or immediate hazards.

Subpart H—Materials Handling, Storage, Use, and Disposal [1]

Sec.
1926.250 General requirements for storage.
  1910.30 Other working surfaces.
  1910.176 Handling materials—general.
1926.251 Rigging equipment for material handling.
  1910.184 Slings.
1926.252 Disposal of waste materials.

(a) *General.* (1) All materials stored in tiers shall be stacked, racked, blocked, interlocked, or otherwise secured to prevent sliding, falling or collapse.

(2) Maximum safe load limits of floors within buildings and structures, in pounds per square foot, shall be conspicuously posted in all storage areas, except for floor or slab on grade. Maximum safe loads shall not be exceeded.

(3) Aisles and passageways shall be kept clear to provide for the free and safe movement of material handling equipment or employees. Such areas shall be kept in good repair.

(4) When a difference in road or working levels exist, means such as ramps, blocking, or grading shall be used to ensure the safe movement of vehicles between the two levels.

(b) *Material storage.* (1) Material stored inside buildings under construction shall not be placed within 6 feet of any hoistway or inside floor openings, nor within 10 feet of an exterior wall which does not extend above the top of the material stored.

(2) Employees required to work on stored material in silos, hoppers, tanks, and similar storage areas shall be equipped with lifelines and safety belts meeting the requirements of Subpart E of this part.

(3) Noncompatible materials shall be segregated in storage.

(4) Bagged materials shall be stacked by stepping back the layers and cross-keying the bags at least every 10 bags high.

(5) Materials shall not be stored on scaffolds or runways in excess of supplies needed for immediate operations.

(6) Brick stacks shall not be more than 7 feet in height. When a loose brick stack reaches a height of 4 feet, it shall be tapered back 2 inches in every foot of height above the 4-foot level.

(7) When masonry blocks are stacked higher than 6 feet, the stack shall be tapered back one-half block per tier above the 6-foot level.

(8) Lumber:

(i) Used lumber shall have all nails withdrawn before stacking.

(ii) Lumber shall be stacked on level and solidly supported sills.

(iii) Lumber shall be so stacked as to be stable and self-supporting.

(iv) Lumber piles shall not exceed 20 feet in height provided that lumber to be handled manually shall not be stacked more than 16 feet high.

(9) Structural steel, poles, pipe, bar stock, and other cylindrical materials, unless racked, shall be stacked and blocked so as to prevent spreading or tilting.

> The following requirements from 29 CFR Part 1910 (General Industry) have been identified as applicable to construction (29 CFR 1926.250 *General Requirements for Storage*).

§ 1910.30 Other working surfaces.

(a) *Dockboards (bridge plates.).* (1) Portable and powered dockboards shall be strong enough to carry the load imposed on them.

(2) Portable dockboards shall be secured in position, either by being anchored or equipped with devices which will prevent their slipping.

* * * * *

(4) Handholds, or other effective means, shall be provided on portable dockboards to permit safe handling.

(5) Positive protection shall be provided to prevent railroad cars from being moved while dockboards or bridge plates are in position.

* * * * *

§ 1910.176 Handling materials—General.

* * * * *

(c) *Housingkeeping.* Storage areas shall be kept free from accumulation of materials that constitute hazards from tripping, fire, explosion, or pest harborage. Vegetation control will be exercised when necessary.

§ 1926.251 Rigging equipment for material handling.

(a) *General.* (1) Rigging equipment for material handling shall be inspected prior to use on each shift and as necessary during its use to ensure that it is safe. Defective rigging equipment shall be removed from service.

(2) Rigging equipment shall not be loaded in excess of its recommended safe working load, as prescribed in Tables H-1 through H-20 in this subpart, following § 1926.252(e) for the specific equipment.

(3) Rigging equipment, when not in use, shall be removed from the immediate work area so as not to present a hazard to employees.

(4) Special custom design grabs, hooks, clamps, or other lifting accessories, for such units as modular panels, prefabricated structures and similar materials, shall be marked to indicate the safe working loads and shall be

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[1] Portions of the listed Part 1910 standards have been identified as applicable to construction.

proof-tested prior to use to 125 percent of their rated load.

(b) *Alloy steel chains.* (1) Welded alloy steel chain slings shall have permanently affixed durable identification stating size, grade, rated capacity, and sling manufacturer.

(2) Hooks, rings, oblong links, pear-shaped links, welded or mechanical coupling links, or other attachments, when used with alloy steel chains, shall have a rated capacity at least equal to that of the chain.

(3) Job or shop hooks and links, or makeshift fasteners, formed from bolts, rods, etc., or other such attachments, shall not be used.

(4) Rated capacity (working load limit) for alloy steel chain slings shall conform to the values shown in Table H-1.

(5) Whenever wear at any point of any chain link exceeds that shown in Table H-2, the assembly shall be removed from service.

(c) *Wire rope.* (1) Tables H-3 through H-14 shall be used to determine the safe working loads of various sizes and classifications of improved plow steel wire rope and wire rope slings with various types of terminals. For sizes, classifications, and grades not included in these tables, the safe working load recommended by the manufacturer for specific, identifiable products shall be followed, provided that a safety factor of not less than 5 is maintained.

(2) Protruding ends of strands in splices on slings and bridles shall be covered or blunted.

(3) Wire rope shall not be secured by knots, except on haul back lines on scrapers.

(4) The following limitations shall apply to the use of wire rope:

(i) An eye splice made in any wire rope shall have not less than three full tucks. However, this requirement shall not operate to preclude the use of another form of splice or connection which can be shown to be as efficient and which is not otherwise prohibited.

(ii) Except for eye splices in the ends of wires and for endless rope slings, each wire rope used in hoisting or lowering, or in pulling loads, shall consist of one continuous piece without knot or splice.

(iii) Eyes in wire rope bridles, slings, or bull wires shall not be formed by wire rope clips or knots.

(iv) Wire rope shall not be used if, in any length of eight diameters, the total number of visible broken wires exceeds 10 percent of the total number of wires, or if the rope shows other signs of excessive wear, corrosion, or defect.

(5) When U-bolt wire rope clips are used to form eyes, Table H-20 shall be used to determine the number and spacing of clips.

(i) When used for eye splices, the U-bolt shall be applied so that the "U" section is in contact with the dead end of the rope.

(d) *Natural rope, and synthetic fiber*—(1) *General.* When using natural or synthetic fiber rope slings, Tables H-15, 16, 17, and 18 shall apply.

(2) All splices in rope slings provided by the employer shall be made in accordance with fiber rope manufacturers recommendations.

(i) In manila rope, eye splices shall contain at least three full tucks, and short splices shall contain at least six full tucks (three on each side of the centerline of the splice).

(ii) In layed synthetic fiber rope, eye splices shall contain at least four full tucks, and short splices shall contain at least eight full tucks (four on each side of the centerline of the splice).

(iii) Strand end tails shall not be trimmed short (flush with the surface of the rope) immediately adjacent to the full tucks. This precaution applies to both eye and short splices and all types of fiber rope. For fiber ropes under 1-inch diameter, the tails shall project at least six rope diameters beyond the last full tuck. For fiber ropes 1-inch diameter and larger, the tails shall project at least 6 inches beyond the last full tuck. In applications where the projecting tails may be objectionable, the tails shall be tapered and spliced into the body of the rope using at least two additional tucks (which will require a tail length of approximately six rope diameters beyond the last full tuck).

(iv) For all eye splices, the eye shall be sufficiently large to provide an included angle of not greater than 60° at the splice when the eye is placed over the load or support.

(v) Knots shall not be used in lieu of splices.

(e) *Synthetic webbing (nylon, polyester, and polypropylene).* (1) The employer shall have each synthetic web sling marked or coded to show:

(i) Name or trademark of manufacturer.

(ii) Rated capacities for the type of hitch.

(iii) Type of material.

(2) Rated capacity shall not be exceeded.

(f) *Shackles and hooks.* (1) Table H-19 shall be used to determine the safe working loads of various sizes of shackles, except that higher safe working loads are permissible when recommended by the manufacturer for specific, identifiable products, provided that a safety factor of not less than 5 is maintained.

(2) The manufacturer's recommendations shall be followed in determining the safe working loads of the various sizes and types of specific and identifiable hooks. All hooks for which no applicable manufacturer's recommendations are available shall be tested to twice the intended safe working load before they are initially put into use. The employer shall maintain a record of the dates and results of such tests.

The following requirements from 29 CFR Part 1910 (General Industry) have been identified as applicable to construction (29 CFR 1926.251(b), (c), (d) and (e) *Rigging Equipment for material handling*), in accordance with the scope noted below.

For 1926.251(b):

§ 1910.184 Slings.

* * * * *

(e) *Alloy steel chain slings.* * * *

(3) *Inspections.* (i) In addition to the inspection required by paragraph (d) of this section, a thorough periodic inspection of alloy steel chain slings in use shall be made on a regular basis, to be determined on the basis of—

(*a*) frequency of sling use;

(*b*) severity of service conditions;

(*c*) nature of lifts being made; and

(*D*) experience gained on the service life of slings used in similar circumstances. Such inspections shall in no event be at intervals greater than once every 12 months.

(ii) The employer shall make and maintain a record of the most recent month in which each alloy steel chain sling was thoroughly inspected, and shall make such record available for examination.

* * * * *

For 1926.251(c):

§ 1910.184 Slings.

* * * * *

(c) *Safe operating practices.* Whenever any sling is used, the following practices shall be observed. * * *

(2) Slings shall not be shortened with knots or bolts or other makeshift devices.

(3) Sling legs shall not be kinked.

(5) Slings used in a basket hitch shall have the loads balanced to prevent slippage.

* * * * *

(7) Slings shall be padded or protected from the sharp edges of their loads.

* * * * *

(10) Hands or fingers shall not be placed between the sling and its load while the sling is being tightened around the load.

(11) Shock loading is prohibited.

(12) A sling shall not be pulled from under a load when the load is resting on the sling.

* * * * *

(f) *Were rope slings.* * * *

(2) *Minimum sling lengths.* (i) Cable laid and 6 × 19 and 6 × 37 slings shall have a minimum clear length of wire rope 10 times the component rope diameter between splices, sleeves or end fittings.

(ii) Braided slings shall have a minimum clear length of wore rope 40 times the component rope diameter between the loops or end fittings.

(iii) Cable laid gromments, strand laid grommets and endless slings shall have a minimum circumferential length of 96 times their body diameter.

(3) *Safe operating temperatures.* Fiber core wire rope slings of all grades shall be permanently removed from service if they are exposed to temperatres in excess of 200° F. When nonfiber core wire rope slings of any grade are used at temperatures above 400° F or below minus 60° F, recommendations of the sling manufacturer regarding use at that temperature shall be followed.

(4) *End attachments.* (i) Welding of end attachments, except covers to thimbles, shall be performed prior to the assembly of the sling.

(ii) All welded end attachments shall not be used unless proof tested by the manufacturer or equivalent entity at twice their rated capacity prior to initial use. The employer shall retain a certificate of the proof test, and make it available for examination.

For 1926.251(d):

§ 1910.184 Slings.

* * * * *

(h) *Natural and synthetic fiber rope slings.* * * *

(2) *Safe operating temperatures.* Natural and synthetic fiber rope slings, except for wet frozen slings, may be used in a temperature range from minus 20° F to plus 180° F without decreasing the working load limit. For operations outside this temperature range and for wet frozen slings, the sling manufacturer's recommendations shall be followed.

(3) *Splicing.* Spliced fiber rope slings shall not be used unless they have been spliced in accordance with the following minimum requirements and in accordance with any additional recommendations of the manufacturer: * * *

(iv) Fiber rope slings shall have a minimum clear length of rope between eye splices equal to 10 times the rope diameter.

(vi) Clamps not designed specifically for fiber ropes shall not be used for splicing.

(4) *End attachments.* Fiber rope slings shall not be used if end attachments in contact with rope have sharp edges or projections.

(5) *Removal from service.* Natural and synthetic fiber rope sling shall be immediately removed from service if any of the following conditions are present:

(i) Abnormal wear.

(ii) Powdered fiber between strands.

(iii) Broken or cut fibers.

(iv) Variations in the size or roundness of strands.

(v) Discoloration or rotting.

(vi) Distortion of hardware in the sling.

For 1926.251(e):

§ 1910.184 Slings.

* * * * *

(i) *Synthetic web slings.* * * *

(2) *Webbing.* Synthetic webbing shall be of uniform thickness and width and selvage edges shall not be split from the webbing's width.

(3) *Fittings.* Fittings shall be:

(A) Of a minimum breaking strength equal to that of the sling; and

(B) Free of all sharp edges that could in any way damage the webbing.

(4) *Attachment of end fittings to webbing and formation of eyes.* Stitching shall be the only method used to attach end fittings to webbing and to form eyes. The thread shall be in an even pattern and contain a sufficient number of stitches to develop the full breaking strength of the sling.

* * * * *

(6) *Environmental conditions.* When synthetic web slings are used, the following precautions shall be taken:

(i) Nylon web slings shall not be used where fumes, vapors, sprays, mists or liquids of acids or phenolics are present.

(ii) Polyester and polypropylene web slings shall not be used where fumes, vapors, sprays, mists or liquids of caustics are present.

(iii) Web slings with aluminum fittings shall not be used where fumes, vapors, sprays, mists or liquids of caustics are present.

(7) *Safe operating temperatures.* Synthetic web slings of polyester and nylon shall not be used at temperatures in excess of 180° F. Polypropylene web slings shall not be used at temperatures in excess of 200° F.

* * * * *

(9) *Removal from service.* Synthetic web slings shall be immediately removed from service if any of the following conditions are present:

(i) Acid or caustic burns;

(ii) Melting or charring of any part of the sling surface;

(iii) Snags, punctures, tears or cuts;

(iv) Broken or worn stitches; or

(v) Distortion of fittings.

* * * * *

§ 1910.184 Slings.

(a) *Scope.* This section applies to slings used in conjunction with other material handling equipment for the movement of material by hoisting, in employments covered by this Part. The types of slings covered are those made from alloy steel chain, wire rope, metal mesh, natural or synthetic fiber rope (conventional three strand construction), and synthetic web (Nylon, polyester, and polypropylene).

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§ 1926.252 Disposal of waste materials.

(a) Whenever materials are dropped more than 20 feet to any point lying outside the exterior walls of the building, an enclosed chute of wood, or equivalent material, shall be used. For the purpose of this paragraph, an enclosed chute is a slide, closed in on all sides, through which material is moved from a high place to a lower one.

(b) When debris is dropped through holes in the floor without the use of chutes, the area onto which the material is dropped shall be completely enclosed with barricades not less than 42 inches high and not less than 6 feet back from the projected edge of the opening above. Signs warning of the hazard of falling materials shall be posted at each level. Removal shall not be permitted in this lower area until debris handling ceases above.

(c) All scrap lumber, waste material, and rubbish shall be removed from the immediate work area as the work progresses.

(d) Disposal of waste material or debris by burning shall comply with local fire regulations.

(e) All solvent waste, oily rags, and flammable liquids shall be kept in fire resistant covered containers until removed from worksite.

[4510-26-C]

Table H-1

RATED CAPACITY (WORKING LOAD LIMIT), FOR ALLOY STEEL CHAIN SLINGS*
RATED CAPACITY (WORKING LOAD LIMIT), POUNDS

Chain Size, Inches	Single Branch Sling — 90 degree Loading	Double Sling Vertical Angle (1) 30 degree Horizontal Angle (2) 60 degree	Double Sling Vertical Angle (1) 45 degree Horizontal Angle (2) 45 degree	Double Sling Vertical Angle (1) 60 degree Horizontal Angle (2) 30 degree	Triple and Quadruple Sling Vertical Angle (1) 30 degree Horizontal Angle (2) 60 degree	Triple and Quadruple Sling Vertical Angle (1) 45 degree Horizontal Angle (2) 45 degree	Triple and Quadruple Sling Vertical Angle (1) 60 degree Horizontal Angle (2) 30 degree
1/4	3,250	5,560	4,550	3,250	8,400	6,800	4,900
3/8	6,600	11,400	9,300	6,600	17,000	14,000	9,900
1/2	11,250	19,500	15,900	11,250	29,000	24,000	17,000
5/8	16,500	28,500	23,300	16,500	43,000	35,000	24,500
3/4	23,000	39,800	32,500	23,000	59,500	48,500	34,500
7/8	28,750	49,800	40,600	28,750	74,500	61,000	43,000
1	38,750	67,100	54,800	38,750	101,000	82,000	58,000
1-1/8	44,500	77,000	63,000	44,500	115,500	94,500	66,500
1-1/4	57,500	99,500	81,000	57,500	149,000	121,500	86,000
1-3/8	67,000	116,000	94,000	67,000	174,000	141,000	100,500
1-1/2	80,000	138,000	112,500	80,000	207,000	169,000	119,500
1-3/4	100,000	172,000	140,000	100,000	258,000	210,000	150,000

(1) Rating of multileg slings adjusted for angle of loading measured as the included angle between the inclined leg and the vertical.

(2) Rating of multileg slings adjusted for angle of loading between the inclined leg and the horizontal plane of the load.

*Other grades of proof tested steel chain include Proof Coil, BBB Coil and Hi-Test Chain. These grades are not recommended for overhead lifting and therefore are not covered by this code.

TABLE H-2—MAXIMUM ALLOWABLE WEAR AT ANY POINT OF LINK

Chain size (inches)	*Maximum allowable wear (inch)*	*Chain size (inches)*	*Maximum allowable wear (inch)*
¼	3/64	1	3/16
⅜	5/64	1⅛	7/32
½	7/64	1¼	¼
⅝	9/64	1⅜	9/32
¾	5/32	1½	5/16
⅞	11/64	1¾	11/32

TABLE H-3—RATED CAPACITIES FOR SINGLE LEG SLINGS

6×19 and 6×37 Classification Improved Plow Steel Grade Rope with Fiber Core (FC)

Rope		Rated Capacities, Tons (2,000 lb.)								
Dia (Inches)	Constr.	Vertical			Choker			Vertical Basket*		
		HT	MS	S	HT	MS	S	HT	MS	S
¼	6×19	0.49	0.51	0.55	0.37	0.38	0.41	0.99	1.0	1.1
5/16	6×19	0.76	0.79	0.85	0.57	0.59	0.64	1.5	1.6	1.7
⅜	6×19	1.1	1.1	1.2	0.80	0.85	0.91	2.1	2.2	2.4
7/16	6×19	1.4	1.5	1.6	1.1	1.1	1.2	2.9	3.0	3.3
½	6×19	1.8	2.0	2.1	1.4	1.5	1.6	3.7	3.9	4.3
9/16	6×19	2.3	2.5	2.7	1.7	1.9	2.0	4.6	5.0	5.4
⅝	6×19	2.8	3.1	3.3	2.1	2.3	2.5	5.6	6.2	6.7
¾	6×19	3.9	4.4	4.8	2.9	3.3	3.6	7.8	8.8	9.5
⅞	6×19	5.1	5.9	6.4	3.9	4.5	4.8	10.0	12.0	13.0
1	6×19	6.7	7.7	8.4	5.0	5.8	6.3	13.0	15.0	17.0
1⅛	6×19	8.4	9.5	10.0	6.3	7.1	7.9	17.0	19.0	21.0
1¼	6×37	9.8	11.0	12.0	7.4	8.3	9.2	20.0	22.0	25.0
1⅜	6×37	12.0	13.0	15.0	8.9	10.0	11.0	24.0	27.0	30.0
1½	6×37	14.0	16.0	17.0	10.0	12.0	13.0	28.0	32.0	35.0
1⅝	6×37	16.0	18.0	21.0	12.0	14.0	15.0	33.0	37.0	41.0
1¾	6×37	19.0	21.0	24.0	14.0	16.0	18.0	38.0	43.0	48.0
2	6×37	25.0	28.0	31.0	18.0	21.0	23.0	49.0	55.0	62.0

*These values only apply when the D/d ratio for HT slings is 10 or greater, and for MS and S Slings is 20 or greater where:

D=Diameter of curvature around which the body of the sling is bent.
d=Diameter of rope.

HT=Hand Tucked Splice and Hidden Tuck Splice. For hidden tuck splice (IWRC) use values in HT columns.
MS=Mechanical Splice.
S=Swaged or Zinc Poured Socket.

TABLE H-4—RATED CAPACITIES FOR SINGLE LEG SLINGS

6×19 AND 6×37 CLASSIFICATION IMPROVED PLOW STEEL GRADE ROPE WITH INDEPENDENT WIRE ROPE CORE (IWRC)

Rope		Rated Capacities, Tons (2,000 lb.)								
Dia. (Inches)	Constr.	Vertical			Choker			Vertical Basket*		
		HT	MS	S	HT	MS	S	HT	MS	S
¼	6×19	0.53	0.56	0.59	0.40	0.42	0.44	1.0	1.1	1.2
5/16	6×19	0.81	0.87	0.92	0.61	0.65	0.69	1.6	1.7	1.8
⅜	6×19	1.1	1.2	1.3	0.86	0.93	0.98	2.3	2.5	2.6
7/16	6×19	1.5	1.7	1.8	1.2	1.3	1.3	3.1	3.4	3.5
½	6×19	2.0	2.2	2.3	1.5	1.6	1.7	3.9	4.4	4.6
9/16	6×19	2.5	2.7	2.9	1.8	2.1	2.2	4.9	5.5	5.8
⅝	6×19	3.0	3.4	3.6	2.2	2.5	2.7	6.0	6.8	7.2
¾	6×19	4.2	4.9	5.1	3.1	3.6	3.8	8.4	9.7	10.0
⅞	6×19	5.5	6.6	6.9	4.1	4.9	5.2	11.0	13.0	14.0
1	6×19	7.2	8.5	9.0	5.4	6.4	6.7	14.0	17.0	18.0
1⅛	6×19	9.0	10.0	11.0	6.8	7.8	8.5	18.0	21.0	23.0
1¼	6×37	10.0	12.0	13.0	7.9	9.2	9.9	21.0	24.0	26.0
1⅜	6×37	13.0	15.0	16.0	9.6	11.0	12.0	25.0	29.0	32.0
1½	6×37	15.0	17.0	19.0	11.0	13.0	14.0	30.0	35.0	38.0
1⅝	6×37	18.0	20.0	22.0	13.0	15.0	17.0	35.0	41.0	44.0
1¾	6×37	20.0	24.0	26.0	15.0	18.0	19.0	41.0	47.0	51.0
2	6×37	26.0	30.0	33.0	20.0	23.0	25.0	53.0	61.0	66.0

*These values only apply when the D/d ratio for HT slings is 10 or greater, and for MS and S Slings is 20 or greater where:

D=Diameter of curvature around which the body of the sling is bent.
d=Diameter of rope.

HT=Hand Tucked Splice: For hidden tuck splice (IWRC) use Table H-3 values in HT column.
MS=Mechanical Splice.
S=Swaged or Zinc Poured Socket.

TABLE H-5—RATED CAPACITIES FOR SINGLE LEG SLINGS

Cable Laid Rope—Mechanical Splice Only
7×7×7 AND 7×7×19 Constructions Galvanized Aircraft Grade Rope
7×6×19 IWRC Construction Improved Plow Steel Grade Rope

Rope		Rated Capacities, Tons (2,000 lb)		
Dia. (Inches)	Constr.	Vertical	Choker	Vert. Basket*
¼	7×7×7	0.50	0.38	1.0
⅜	7×7×7	1.1	0.81	2.2
½	7×7×7	1.8	1.4	3.7
⅝	7×7×7	2.8	2.1	5.5
¾	7×7×7	3.8	2.9	7.6
⅝	7×7×19	2.9	2.2	5.8
¾	7×7×19	4.1	3.0	8.1
⅞	7×7×19	5.4	4.0	11.0
1	7×7×19	6.9	5.1	14.0
1⅛	7×7×19	8.2	6.2	16.0
1 ¼	7×7×19	9.9	7.4	20.0
¾	7×6×19 IWRC	3.8	2.8	7.6
⅞	7×6×19 IWRC	5.0	3.8	10.0
1	7×6×19 IWRC	6.4	4.8	13.0
1⅛	7×6×19 IWRC	7.7	5.8	15.0
1¼	7×6×19 IWRC	9.2	6.9	18.0
1 5/16	7×6×19 IWRC	10.0	7.5	20.0
1⅜	7×6×19 IWRC	11.0	8.2	22.0
1½	7×6×19 IWRC	13.0	9.6	26.0

*These values only apply when the D/d ratio in 10 or greater where:
D = Diameter of curvature around which the body of the sling is bent.
d = Diameter of rope.

Table H-6
RATED CAPACITIES FOR SINGLE LEG SLINGS
8-PART AND 6-PART BRAIDED ROPE
6 x 7 AND 6 x 19 CONSTRUCTION IMPROVED PLOW STEEL GRADE ROPE
7 x 7 CONSTRUCTION GALVANIZED AIRCRAFT GRADE ROPE

Component Ropes		Rated Capacities, Tons (2,000 lb)					
		Vertical		Choker		Basket Vertical to 30 degree*	
Diameter (Inches)	Constr	8-Part	6-Part	8-Part	6-Part	8-Part	6-Part
3/32	6 x 7	0.42	0.32	0.32	0.24	0.74	0.55
1/8	6 x 7	0.76	0.57	0.57	0.42	1.3	0.98
3/16	6 x 7	1.7	1.3	1.3	0.94	2.9	2.2
3/32	7 x 7	0.51	0.39	0.38	0.29	0.89	0.67
1/8	7 x 7	0.95	0.71	0.71	0.53	1.6	1.2
3/16	7 x 7	2.1	1.5	1.5	1.2	3.6	2.7
3/16	6 x 19	1.7	1.3	1.3	0.98	3.0	2.2
1/4	6 x 19	3.1	2.3	2.3	1.7	5.3	4.0
5/16	6 x 19	4.8	3.6	3.6	2.7	8.3	6.2
3/8	6 x 19	6.8	5.1	5.1	3.8	12.0	8.9
7/16	6 x 19	9.3	6.9	6.9	5.2	16.0	12.0
1/2	6 x 19	12.0	9.0	9.0	6.7	21.0	15.0
9/16	6 x 19	15.0	11.0	11.0	8.5	26.0	20.0
5/8	6 x 19	19.0	14.0	14.0	10.0	32.0	24.0
3/4	6 x 19	27.0	20.0	20.0	15.0	46.0	35.0
7/8	6 x 19	36.0	27.0	27.0	20.0	62.0	47.0
1	6 x 19	47.0	35.0	35.0	26.0	81.0	61.0

*These values only apply when the D/d ratio is 20 or greater where:
D = Diameter of curvature around which the body of the sling is bent.
d = Diameter of component rope.

Table H-7

RATED CAPACITIES FOR 2-LEG & 3-LEG BRIDLE SLINGS 6 x 19 AND 6 x 37 CLASSIFICATION IMPROVED PLOW STEEL GRADE ROPE WITH FIBER CORE (FC)

Rope		Rated Capacities, Tons (2,000 lb)											
		2-Leg Bridle Slings						3-Leg Bridle Slings					
Dia (Inches)	Constr	Vert 30 degree Horz 60 degree		45 degree Angle		Vert 60 degree Horz 30 degree		Vert 30 degree Horz 60 degree		45 degree Angle		Vert 60 degree Horz 30 degree	
		HT	MS	HT	MS	HT	MS	HT	MS	HT	MS	HT	MS
1/4	6 x 19	0.85	0.88	0.70	0.72	0.49	0.51	1.3	1.3	1.0	1.1	0.74	0.7
5/16	6 x 19	1.3	1.4	1.1	1.1	0.76	0.79	2.0	2.0	1.6	1.7	1.1	1.2
3/8	6 x 19	1.8	1.9	1.5	1.6	1.1	1.1	2.8	2.9	2.3	2.4	1.6	1.7
7/16	6 x 19	2.5	2.6	2.0	2.2	1.4	1.5	3.7	4.0	3.0	3.2	2.1	2.3
1/2	6 x 19	3.2	3.4	2.6	2.8	1.8	2.0	4.8	5.1	3.9	4.2	2.8	3.0
9/16	6 x 19	4.0	4.3	3.2	3.5	2.3	2.5	6.0	6.5	4.9	5.3	3.4	3.7
5/8	6 x 19	4.8	5.3	4.0	4.4	2.8	3.1	7.3	8.0	5.9	6.5	4.2	4.6
3/4	6 x 19	6.8	7.6	5.5	6.2	3.9	4.4	10.0	11.0	8.3	9.3	5.8	6.6
7/8	6 x 19	8.9	10.0	7.3	8.4	5.1	5.9	13.0	15.0	11.0	13.0	7.7	8.9
1	6 x 19	11.0	13.0	9.4	11.0	6.7	7.7	17.0	20.0	14.0	16.0	10.0	11.0
1-1/8	6 x 19	14.0	16.0	12.0	13.0	8.4	9.5	22.0	24.0	18.0	20.0	13.0	14.0
1-1/4	6 x 37	17.0	19.0	14.0	16.0	9.8	11.0	25.0	29.0	21.0	23.0	15.0	17.0
1-3/8	6 x 37	20.0	23.0	17.0	19.0	12.0	13.0	31.0	35.0	25.0	28.0	18.0	20.0
1-1/2	6 x 37	24.0	27.0	20.0	22.0	14.0	16.0	36.0	41.0	30.0	33.0	21.0	24.0
1-5/8	6 x 37	28.0	32.0	23.0	26.0	16.0	18.0	43.0	48.0	35.0	39.0	25.0	28.0
1-3/4	6 x 37	33.0	37.0	27.0	30.0	19.0	21.0	49.0	56.0	40.0	45.0	28.0	32.0
2	6 x 37	43.0	48.0	35.0	39.0	25.0	28.0	64.0	72.0	52.0	59.0	37.0	41.0

HT = Hand Tucked Splice,
MS = Mechanical Splice

Table H-8

RATED CAPACITIES FOR 2-LEG & 3-LEG BRIDLE SLINGS 6 x 19 and 6 x 37 CLASSIFICATION IMPROVED PLOW STEEL GRADE ROPE WITH INDEPENDENT WIRE ROPE CORE (IWRC)

Rope		Rated Capacities, Tons (2,000 lb)											
		2-Leg Bridle Sling						3-Leg Bridle Sling					
Dia (Inches)	Constr	Vert 30 degree Horz 60 degree		45 degree Angle		Vert 60 degree Horz 30 degree		Vert 30 degree Horz 60 degree		45 degree Angle		Vert 60 degree Horz 30 degree	
		HT	MS	HT	MS	HT	MS	HT	MS	HT	MS	HT	MS
1/4	6 x 19	0.92	0.97	0.75	0.79	0.53	0.56	1.4	1.4	1.1	1.2	0.79	0.84
5/16	6 x 19	1.4	1.5	1.1	1.2	1.81	0.87	2.1	2.3	1.7	1.8	1.2	1.3
3/8	6 x 19	2.0	2.1	1.6	1.8	1.1	1.2	3.0	3.2	2.4	2.6	1.7	1.9
7/16	6 x 19	2.7	2.9	2.2	2.4	1.5	1.7	4.0	4.4	3.3	3.6	2.3	2.5
1/2	6 x 19	3.4	3.8	2.8	3.1	2.0	2.2	5.1	5.7	4.2	4.6	3.0	3.3
9/16	6 x 19	4.3	4.8	3.5	3.9	2.5	2.7	6.4	7.1	5.2	5.8	3.7	4.1
5/8	6 x 19	5.2	5.9	4.2	4.8	3.0	3.4	7.8	8.8	6.4	7.2	4.5	5.1
3/4	6 x 19	7.3	8.4	5.9	6.9	4.2	4.9	11.0	13.0	8.9	10.0	6.3	7.3
7/8	6 x 19	9.6	11.0	7.8	9.3	5.5	6.6	14.0	17.0	12.0	14.0	8.3	9.9
1	6 x 19	12.0	15.0	10.0	12.0	7.2	8.5	19.0	22.0	15.0	18.0	11.0	13.0
1-1/8	6 x 19	16.0	18.0	13.0	15.0	9.0	10.0	23.0	27.0	19.0	22.0	13.0	16.0
1-1/4	6 x 37	18.0	21.0	15.0	17.0	10.0	12.0	27.0	32.0	22.0	26.0	16.0	18.0
1-3/8	6 x 37	22.0	25.0	18.0	21.0	13.0	15.0	33.0	38.0	27.0	31.0	19.0	22.0
1-1/2	6 x 37	26.0	30.0	21.0	25.0	15.0	17.0	39.0	45.0	32.0	37.0	23.0	26.0
1-5/8	6 x 37	31.0	35.0	25.0	29.0	18.0	20.0	46.0	53.0	38.0	43.0	27.0	31.0
1-3/4	6 x 37	35.0	41.0	29.0	33.0	20.0	24.0	53.0	61.0	43.0	50.0	31.0	35.0
2	6 x 37	46.0	53.0	37.0	43.0	26.0	30.0	68.0	79.0	56.0	65.0	40.0	46.0

HT = Hand Tucked Splice
MS = Mechanical Splice

Table H-9

RATED CAPACITIES FOR 2-LEG & 3-LEG BRIDLE SLINGS
CABLE LAID ROPE – MECHANICAL SPLICE ONLY
7 × 7 × 7 AND 7 × 7 × 19 CONSTRUCTIONS GALVANIZED AIRCRAFT GRADE ROPE
7 × 6 × 19 IWRC CONSTRUCTION IMPROVED PLOW STEEL GRADE ROPE

Rope		Rated Capacities, Tons (2,000 lb)					
		2-Leg Bridle Sling			3-Leg Bridle Sling		
Dia (Inches)	Constr	Vert 30 deg Horz 60 deg	45 degree Angle	Vert 60 deg Horz 30 deg	Vert 30 deg Horz 60 deg	45 degree Angle	Vert 60 deg Horz 30 deg
1/4	7 × 7 × 7	0.87	0.71	0.50	1.3	1.1	0.75
3/8	7 × 7 × 7	1.9	1.5	1.1	2.8	2.3	1.6
1/2	7 × 7 × 7	3.2	2.6	1.8	4.8	3.9	2.8
5/8	7 × 7 × 7	4.8	3.9	2.8	7.2	5.9	4.2
3/4	7 × 7 × 7	6.6	5.4	3.8	9.9	8.1	5.7
5/8	7 × 7 × 19	5.0	4.1	2.9	7.5	6.1	4.3
3/4	7 × 7 × 19	7.0	5.7	4.1	10.0	8.6	6.1
7/8	7 × 7 × 19	9.3	7.6	5.4	14.0	11.0	8.1
1	7 × 7 × 19	12.0	9.7	6.9	18.0	14.0	10.0
1-1/8	7 × 7 × 19	14.0	12.0	8.2	21.0	17.0	12.0
1-1/4	7 × 7 × 19	17.0	14.0	9.9	26.0	21.0	15.0
3/4	7×6×19 IWRC	6.6	5.4	3.8	9.9	8.0	5.7
7/8	7×6×19 IWRC	8.7	7.1	5.0	13.0	11.0	7.5
1	7×6×19 IWRC	11.0	9.0	6.4	17.0	13.0	9.6
1-1/8	7×6×19 IWRC	13.0	11.0	7.7	20.0	16.0	11.0
1-1/4	7×6×19 IWRC	16.0	13.0	9.2	24.0	20.0	14.0
1-5/16	7×6×19 IWRC	17.0	14.0	10.0	26.0	21.0	15.0
1-3/8	7×6×19 IWRC	19.0	15.0	11.0	28.0	23.0	16.0
1-1/2	7×6×19 IWRC	22.0	18.0	13.0	33.0	27.0	19.0

Table H-10

RATED CAPACITIES FOR 2-LEG AND 3-LEG BRIDLE SLINGS
8-PART AND 6-PART BRAIDED ROPE
6 × 7 AND 6 × 19 CONSTRUCTION IMPROVED PLOW STEEL GRADE ROPE
7 × 7 CONSTRUCTION GALVANIZED AIRCRAFT GRADE ROPE

Component Rope		Rated Capacities, Tons (2,000 lb)											
		2-Leg Bridle Slings						3-Leg Bridle Slings					
Dia (Inches)	Constr	Vert 30 degree Horz 60 degree		45 degree Angle		Vert 60 degree Horz 30 degree		Vert 30 degree Horz 60 degree		45 degree Angle		Vert 60 degree Horz 30 degree	
		8-Part	6-Part	8-Part	6-Part	8-Part	6-Part	8-Part	6-Part	8-Part	6-Part	8-Part	6-Part
3/32	6 × 7	0.74	0.55	0.60	0.45	0.42	0.32	1.1	0.83	0.90	0.68	0.64	0.48
1/8	6 × 7	1.3	0.98	1.1	0.80	0.76	0.57	2.0	1.5	1.6	1.2	1.1	0.85
3/16	6 × 7	2.9	2.2	2.4	1.8	1.7	1.3	4.4	3.3	3.6	2.7	2.5	1.9
3/32	7 × 7	0.89	0.67	0.72	0.55	0.51	0.39	1.3	1.0	1.1	0.82	0.77	0.58
1/8	7 × 7	1.6	1.2	1.3	1.0	0.95	0.71	2.5	1.8	2.0	1.5	1.4	1.1
3/16	7 × 7	3.6	2.7	2.9	2.2	2.1	1.5	5.4	4.0	4.4	3.3	3.1	2.3
3/16	6 × 19	3.0	2.2	2.4	1.8	1.7	1.3	4.5	3.4	3.7	2.8	2.6	1.9
1/4	6 × 19	5.3	4.0	4.3	3.2	3.1	2.3	8.0	6.0	6.5	4.9	4.6	3.4
5/16	6 × 19	8.3	6.2	6.7	5.0	4.8	3.6	12.0	9.3	10.0	7.6	7.1	5.4
3/8	6 × 19	12.0	8.9	9.7	7.2	6.8	5.1	18.0	13.0	14.0	11.0	10.0	7.7
7/16	6 × 19	16.0	12.0	13.0	9.8	9.3	6.9	24.0	18.0	20.0	15.0	14.0	10.0
1/2	6 × 19	21.0	15.0	17.0	13.0	12.0	9.0	31.0	23.0	25.0	19.0	18.0	13.0
9/16	6 × 19	26.0	20.0	21.0	16.0	15.0	11.0	39.0	29.0	32.0	24.0	23.0	17.0
5/8	6 × 19	32.0	24.0	26.0	20.0	19.0	14.0	48.0	36.0	40.0	30.0	28.0	21.0
3/4	6 × 19	46.0	35.0	38.0	28.0	27.0	20.0	69.0	52.0	56.0	42.0	40.0	30.0
7/8	6 × 19	62.0	47.0	51.0	38.0	36.0	27.0	94.0	70.0	76.0	57.0	54.0	40.0
1	6 × 19	81.0	61.0	66.0	50.0	47.0	35.0	22.0	91.0	99.0	74.0	70.0	53.0

Table H-11
RATED CAPACITIES FOR STRAND LAID GROMMET – HAND TUCKED IMPROVED PLOW STEEL GRADE ROPE

ROPE BODY		RATED CAPACITIES, TONS (2,000 lb)		
Dia (Inches)	Constr	Vertical	Choker	Vertical Basket*
1/4	7 × 19	0.85	0.64	1.7
5/16	7 × 19	1.3	1.0	2.6
3/8	7 × 19	1.9	1.4	3.8
7/16	7 × 19	2.6	1.9	5.2
1/2	7 × 19	3.3	2.5	6.7
9/16	7 × 19	4.2	3.1	8.4
5/8	7 × 19	5.2	3.9	10.00
3/4	7 × 19	7.4	5.6	15.0
7/8	7 × 19	10.0	7.5	20.0
1	7 × 19	13.0	9.7	26.0
1-1/8	7 × 19	16.0	12.0	32.0
1-1/4	7 × 37	18.0	14.0	37.0
1-3/8	7 × 37	22.0	16.0	44.0
1-1/2	7 × 37	26.0	19.0	52.0

* These values only apply when the D/d ratio is 5 or greater where:
D = Diameter of curvature around which rope is bent.
d = Diameter of rope body.

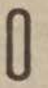
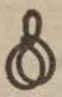
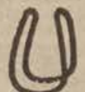
Table H-12
RATED CAPACITIES FOR CABLE LAID GROMMET – HAND TUCKED 7 × 6 × 7 AND 7 × 6 × 19 CONSTRUCTIONS IMPROVED PLOW STEEL GRADE ROPE 7 × 7 × 7 CONSTRUCTION GALVANIZED AIRCRAFT GRADE ROPE

CABLE BODY		RATED CAPACITIES, TONS (2,000 lb)		
Dia (Inches)	Constr	Vertical	Choker	Vertical Basket*
3/8	7 × 6 × 7	1.3	0.95	2.5
9/16	7 × 6 × 7	2.8	2.1	5.6
5/8	7 × 6 × 7	3.8	2.8	7.6
3/8	7 × 7 × 7	1.6	1.2	3.2
9/16	7 × 7 × 7	3.5	2.6	6.9
5/8	7 × 7 × 7	4.5	3.4	9.0
5/8	7 × 6 × 19	3.9	3.0	7.9
3/4	7 × 6 × 19	5.1	3.8	10.0
15/16	7 × 6 × 19	7.9	5.9	16.0
1-1/8	7 × 6 × 19	11.0	8.4	22.0
1-5/16	7 × 6 × 19	15.0	11.0	30.0
1-1/2	7 × 6 × 19	19.0	14.0	39.0
1-11/16	7 × 6 × 19	24.0	18.0	49.0
1-7/8	7 × 6 × 19	30.0	22.0	60.0
2-1/4	7 × 6 × 19	42.0	31.0	84.0
2-5/8	7 × 6 × 19	56.0	42.0	112.0

* These values only apply when the D/d ratio is 5 or greater where:
D = Diameter of curvature around which cable body is bent.
d = Diameter of cable body.

Table H-13

RATED CAPACITIES FOR STRAND LAID ENDLESS SLINGS-MECHANICAL JOINT IMPROVED PLOW STEEL GRADE ROPE

ROPE BODY		RATED CAPACITIES, TONS (2,000 lb)		
Dia (Inches)	Constr	 Vertical	 Choker	 Vertical Basket*
1/4	6 × 19 IWRC	0.92	0.69	1.8
3/8	6 × 19 IWRC	2.0	1.5	4.1
1/2	6 × 19 IWRC	3.6	2.7	7.2
5/8	6 × 19 IWRC	5.6	4.2	11.0
3/4	6 × 19 IWRC	8.0	6.0	16.0
7/8	6 × 19 IWRC	11.0	8.1	21.0
1	6 × 19 IWRC	14.0	10.0	28.0
1-1/8	6 × 19 IWRC	18.0	13.0	35.0
1-1/4	6 × 37 IWRC	21.0	15.0	41.0
1-3/8	6 × 37 IWRC	25.0	19.0	50.0
1-1/2	6 × 37 IWRC	29.0	22.0	59.0

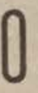
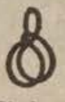
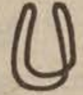
*These values only apply when the D/d ratio is 5 or greater where:

D = Diameter of curvature around which rope is bent.

d = Diameter of rope body.

Table H-14

RATED CAPACITIES FOR CABLE LAID ENDLESS SLINGS-MECHANICAL JOINT 7 × 7 × 7 AND 7 × 7 × 19 CONSTRUCTIONS GALVANIZED AIRCRAFT GRADE ROPE 7 × 6 × 19 IWRC CONSTRUCTION IMPROVED PLOW STEEL GRADE ROPE

CABLE BODY		RATED CAPACITIES, TONS (2,000 lb)		
Dia (Inches)	Constr	 Vertical	 Choker	 Vertical Basket*
1/4	7 × 7 × 7	0.83	0.62	1.6
3/8	7 × 7 × 7	1.8	1.3	3.5
1/2	7 × 7 × 7	3.0	2.3	6.1
5/8	7 × 7 × 7	4.5	3.4	9.1
3/4	7 × 7 × 7	6.3	4.7	12.0
5/8	7 × 7 × 19	4.7	3.5	9.5
3/4	7 × 7 × 19	6.7	5.0	13.0
7/8	7 × 7 × 19	8.9	6.6	18.0
1	7 × 7 × 19	11.0	8.5	22.0
1-1/8	7 × 7 × 19	14.0	10.0	28.0
1-1/4	7 × 7 × 19	17.0	12.0	33.0
3/4	7 × 6 × 19 IWRC	6.2	4.7	12.0
7/8	7 × 6 × 19 IWRC	8.3	6.2	16.0
1	7 × 6 × 19 IWRC	10.0	7.9	21.0
1-1/8	7 × 6 × 19 IWRC	13.0	9.7	26.0
1-1/4	7 × 6 × 19 IWRC	16.0	12.0	31.0
1-3/8	7 × 6 × 19 IWRC	18.0	14.0	37.0
1-1/2	7 × 6 × 19 IWRC	22.0	16.0	43.0

*These values only apply when the D/d value is 5 or greater where:

D = Diameter of curvature around which cable body is bent.

d = Diameter of cable body.

Table H-15
MANILA ROPE SLINGS

ROPE DIA-METER Nominal In Inches	Nominal Weight Per 100 ft In Pounds	Minimum Breaking Strength In Pounds	RATED CAPACITY IN POUNDS (Safety Factor = 5)											
			EYE AND EYE SLING						ENDLESS SLING					
			VERTICAL HITCH	CHOKER HITCH	BASKET HITCH				VERTICAL HITCH	CHOKER HITCH	BASKET HITCH			
					Angle of Rope to Horizontal						Angle of Rope to Horizontal			
					90 deg	60 deg	45 deg	30 deg			90 deg	60 deg	45 deg	30 deg
					Angle of Rope to Vertical						Angle of Rope to Vertical			
					0 deg	30 deg	45 deg	60 deg			0 deg	30 deg	45 deg	60 deg
1/2	7.5	2,650	550	250	1,100	900	750	550	950	500	1,900	1,700	1,400	950
9/16	10.4	3,450	700	350	1,400	1,200	1,000	700	1,200	600	2,500	2,200	1,800	1,200
5/8	13,3	4,400	900	450	1,800	1,500	1,200	900	1,600	800	3,200	2,700	2,200	1,600
3/4	16.7	5,400	1,100	550	2,200	1,900	1,500	1,100	2,000	950	3,900	3,400	2,800	2,000
13/16	19.5	6,500	1,300	650	2,600	2,300	1,800	1,300	2,300	1,200	4,700	4,100	3,300	2,300
7/8	22.5	7,700	1,500	750	3,100	2,700	2,200	1,500	2,800	1,400	5,600	4,800	3,900	2,800
1	27.0	9,000	1,800	900	3,600	3,100	2,600	1,800	3,200	1,600	6,500	5,600	4,600	3,200
1 1/16	31.3	10,500	2,100	1,100	4,200	3,600	3,000	2,100	3,800	1,900	7,600	6,600	5,400	3,800
1 1/8	36.0	12,000	2,400	1,200	4,800	4,200	3,400	2,400	4,300	2,200	8,600	7,500	6,100	4,300
1 1/4	41.7	13,500	2,700	1,400	5,400	4,700	3,800	2,700	4,900	2,400	9,700	8,400	6,900	4,900
1 5/16	47.9	15,000	3,000	1,500	6,000	5,200	4,300	3,000	5,400	2,700	11,000	9,400	7,700	5,400
1 1/2	59.9	18,500	3,700	1,850	7,400	6,400	5,200	3,700	6,700	3,300	13,500	11,500	9,400	6,700
1 5/8	74.6	22,500	4,500	2,300	9,000	7,800	6,400	4,500	8,100	4,100	16,000	14,000	11,500	8,000
1 3/4	89.3	26,500	5,300	2,700	10,500	9,200	7,500	5,300	9,500	4,800	19,000	16,500	13,500	9,500
2	107.5	31,000	6,200	3,100	12,500	10,500	8,800	6,200	11,000	5,600	22,500	19,500	16,000	11,000
2 1/3	125.0	36,000	7,200	3,600	14,500	12,500	10,000	7,200	13,000	6,500	26,000	22,500	18,500	13,000
2 1/4	146.0	41,000	8,200	4,100	16,500	14,000	11,500	8,200	15,000	7,400	29,500	25,500	21,000	15,000
2 1/2	166.7	46.500	9,300	4,700	18,500	16,000	13,000	9,300	16,500	8,400	33,500	29,000	23,500	16,500
2 5/8	190.8	52,000	10,500	5,200	21,000	18,000	14,500	10,500	18,500	9,500	37,500	32,500	26,500	18,500

Table H-16
NYLON ROPE SLINGS

ROPE DIA-METER Nominal In Inches	Nominal Weight Per 100 ft In Pounds	Minimum Breaking Strength In Pounds	RATED CAPACITY IN POUNDS (Safety Factor = 9)											
			EYE AND EYE SLING						ENDLESS SLING					
			VERTICAL HITCH	CHOKER HITCH	BASKET HITCH				VERTICAL HITCH	CHOKER HITCH	BASKET HITCH			
					Angle of Rope to Horizontal						Angle of Rope to Horizontal			
					90 deg	60 deg	45 deg	30 deg			90 deg	60 deg	45 deg	30 deg
					Angle of Rope to Vertical						Angle of Rope to Vertical			
					0 deg	30 deg	45 deg	60 deg			0 deg	30 deg	45 deg	60 deg
1/2	6.5	6,080	700	350	1,400	1,200	950	700	1,200	600	2,400	2,100	1,700	1,200
9/16	8.3	7,600	850	400	1,700	1,500	1,200	850	1,500	750	3,000	2,600	2,200	1,500
5/8	10.5	9,880	1,100	550	2,200	1,900	1,600	1,100	2,000	1,000	4,000	3,400	2,800	2,000
3/4	14.5	13,490	1,500	750	3,000	2,600	2,100	1.500	2,700	1,400	5,400	4,700	3,800	2,700
13/16	17.0	16,150	1,800	900	3,600	3,100	2,600	1,800	3,200	1,600	6,400	5,600	4,600	3,200
7/8	20.0	19.000	2,100	1,100	4,200	3,700	3,000	2,100	3,800	1,900	7,600	6,600	5,400	3,800
1	26.0	23,750	2,600	1,300	5,300	4,600	3,700	2,600	4,800	2,400	9,500	8,200	6,700	4,800
1 1/16	29.0	27,360	3,000	1,500	6,100	5,300	4,300	3,000	5,500	2,700	11,000	9,500	7,700	5,500
1 1/8	34.0	31,350	3,500	1,700	7,000	6,000	5,000	3,500	6,300	3,100	12,500	11,000	8,900	6,300
1 1/4	40.0	35,625	4,000	2,000	7,900	6,900	5,600	4,000	7,100	3,600	14,500	12,500	10,000	7.100
1 5/16	45.0	40,850	4,500	2,300	9,100	7,900	6,400	4,500	8,200	4,100	16,500	14,000	12,000	8,200
1 1/2	55.0	50,350	5,600	2,800	11,000	9,700	7,900	5,600	10,000	5,000	20,000	17,500	14,000	10,000
1 5/8	68.0	61,750	6,900	3,400	13,500	12,000	9,700	6,900	12,500	6,200	24,500	21,500	17,500	12,500
1 3/4	83.0	74,100	8,200	4,100	16,500	14,500	11,500	8,200	15,000	7,400	29,500	27,500	21,000	15,000
2	95.0	87,400	9,700	4,900	19,500	17,000	13,500	9,700	17,500	8,700	35,000	30,500	24,500	17,500
2 1/8	109.0	100,700	11,000	5,600	22,500	19,500	16,000	11,000	20,000	10,000	40,500	35,000	28,500	20,000
2 1/4	129.0	118,750	13,000	6,600	26,500	23,000	18,500	13,000	24,000	12,000	47,500	41,000	33,500	24,000
2 1/2	149.0	133,000	15,000	7,400	29,500	25,500	21,000	15,000	26,500	13,300	53,000	46,000	37,500	26,500
2 5/8	169.0	153,900	17,100	8,600	34,000	29,500	24,000	17,000	31,000	15,500	61,500	53,500	43,500	31,000

Table H-17
POLYESTER ROPE SLINGS

ROPE DIA-METER Nominal In Inches	Nominal Weight Per 100 ft In Pounds	Minimum Breaking Strength In Pounds	RATED CAPACITY IN POUNDS (Safety Factor = 9)											
			EYE AND EYE SLING						ENDLESS SLING					
			VERTICAL HITCH	CHOKER HITCH	BASKET HITCH				VERTICAL HITCH	CHOKER HITCH	BASKET HITCH			
					Angle of Rope to Horizontal						Angle of Rope to Horizontal			
					90 deg	60 deg	45 deg	30 deg			90 deg	60 deg	45 deg	30 deg
					Angle of Rope to Vertical						Angle of Rope to Vertical			
					0 deg	30 deg	45 deg	60 deg			0 deg	30 deg	45 deg	60 deg
1/2	8.0	6,080	700	350	1,400	1,200	950	700	1,200	600	2,400	2,100	1,700	1,200
9/16	10.2	7,600	850	400	1,700	1,500	1,200	850	1,500	750	3,000	2,600	2,200	1,500
5/8	13.0	9,500	1,100	550	2,100	1,800	1,500	1.100	1,900	950	3,800	3,300	2,700	1,900
3/4	17.5	11,875	1,300	650	2,600	2,300	1,900	1,300	2,400	1,200	4,800	4,100	3,400	2,400
13/16	21.0	14,725	1,600	800	3,300	2,800	2,300	1,600	2,900	1,500	5,900	5,100	4,200	2,900
7/8	25.0	17,100	1,900	950	3,800	3,300	2,700	1,900	3,400	1,700	6,800	5,900	4,800	3,400
1	30.5	20,900	2,300	1,200	4,600	4,000	3,300	2,300	4,200	2,100	8,400	7,200	5,900	4,200
1 1/16	34.5	24,225	2,700	1,300	5,400	4,700	3,800	2,700	4,800	2,400	9,700	8,400	6,900	4,800
1 1/8	40.0	28,025	3,100	1,600	6,200	5,400	4,400	3,100	5,600	2,800	11,000	9,700	7,900	5,600
1 1/4	46.3	31,540	3,500	1,800	7,000	6,100	5,000	3,500	6,300	3,200	12,500	11,000	8,900	6,300
1 5/16	52.5	35,625	4,000	2,000	7,900	6,900	5,600	4,000	7,100	3,600	14,500	12,500	10,000	7,100
1 1/2	66.8	44,460	4,900	2,500	9,900	8,600	7,000	4,900	8,900	4,400	18,000	15,500	12,500	8,900
1 5/8	82.0	54,150	6,000	3,000	12,000	10,400	8,500	6,000	11,000	5,400	21,500	19,000	15,500	11,000
1 3/4	98.0	64,410	7,200	3,600	14,500	12,500	10,000	7,200	13,000	6,400	26,000	22,500	18,000	13,000
2	118.0	76,000	8,400	4,200	17,000	14,500	12,000	8,400	15,000	7,600	30,500	26,500	21,500	15,000
2 1/8	135.0	87,400	9,700	4,900	19,500	17,000	13,500	9,700	17,500	8,700	35,000	30,500	24,500	17,500
2 1/4	157.0	101,650	11,500	5,700	22,500	19,500	16,000	11,500	20,500	10,000	40,500	35,000	29,000	20,500
2 1/2	181.0	115,900	13,000	6,400	26,000	22,500	18,000	13,000	23,000	11,500	46,500	40,000	33,000	23,000
2 5/8	205.0	130,150	14,500	7,200	29,000	25,000	20,500	14,500	26,000	13,000	52,000	45,000	37,000	26,000

Table H-18
POLYPROPYLENE ROPE SLINGS

ROPE DIA-METER Nominal In Inches	Nominal Weight Per 100 ft In Pounds	Minimum Breaking Strength In Pounds	RATED CAPACITY IN POUNDS (Safety Factor = 6)											
			EYE AND EYE SLING						ENDLESS SLING					
			VERTICAL HITCH	CHOKER HITCH	BASKET HITCH				VERTICAL HITCH	CHOKER HITCH	BASKET HITCH			
					Angle of Rope to Horizontal						Angle of Rope to Horizontal			
					90 deg	60 deg	45 deg	30 deg			90 deg	60 deg	45 deg	30 deg
					Angle of Rope to Vertical						Angle of Rope to Vertical			
					0 deg	30 deg	45 deg	60 deg			0 deg	30 deg	45 deg	60 deg
1/2	4.7	3,990	650	350	1,300	1,200	950	650	1,200	600	2,400	2,100	1,700	1,200
9/16	6.1	4,845	800	400	1,600	1.400	1,100	800	1,500	750	2,900	2,500	2,100	1,500
5/8	7.5	5,890	1,000	500	2,000	1,700	1,400	1,000	1,800	900	3,500	3,100	2,500	1,800
3/4	10.7	8,075	1,300	700	2,700	2,300	1,900	1,300	2,400	1,200	4,900	4,200	3,400	2,400
13/16	12.7	9,405	1,600	800	3,100	2,700	2,200	1,600	2,800	1,400	5,600	4,900	4,000	2,800
7/8	15.0	10,925	1,800	900	3,600	3,200	2,600	1,800	3,300	1,600	6,600	5,700	4,600	3,300
1	18.0	13,300	2,200	1,100	4,400	3,800	3,100	2,200	4,000	2,000	8,000	6,900	5,600	4,000
1 1/16	20.4	15,200	2,500	1,300	5,100	4,400	3,600	2,500	4,600	2,300	9,100	7,900	6,500	4,600
1 1/8	23.7	17,385	2,900	1,500	5,800	5,000	4,100	2,900	5,200	2,600	10,500	9,000	7,400	5,200
1 1/4	27.0	19,950	3,300	1,700	6,700	5,800	4,700	3,300	6,000	3,000	12,000	10,500	8,500	6,000
1 5/16	30.5	22,325	3,700	1,900	7,400	6,400	5,300	3,700	6,700	3,400	13,500	11,500	9,500	6,700
1 1/2	38.5	28,215	4,700	2,400	9,400	8,100	6,700	4,700	8,500	4,200	17,000	14,500	12,000	8,500
1 5/8	47.5	34,200	5,700	2,900	11,500	9,900	8,100	5,700	10,500	5,100	20,500	18,000	14,500	10,500
1 3/4	57.0	40,850	6,800	3,400	13,500	12,000	9,600	6,800	12,500	6,100	24,500	21,000	17,500	12,500
2	69.0	49,400	8,200	4,100	16,500	14,500	11,500	8,200	15,000	7,400	29,500	25,500	21,000	15,000
2 1/8	80.0	57,950	9,700	4,800	19,500	16,500	13,500	9,700	17,500	8,700	35,000	30,100	24,500	17,500
2 1/4	92.0	65,550	11,000	5,500	22,000	19,000	15,500	11,000	19,500	9,900	39,500	34,000	28,000	19,500
2 1/2	107.0	76,000	12,500	6,300	25,500	22,000	18,000	12,500	23,000	11,500	45,500	39,500	32,500	23,000
2 5/8	120.0	85,500	14,500	7,100	28,500	24,500	20,000	14,500	25,500	13,000	51,500	44,500	36,500	25,500

[4510-26-M]

TABLE H-19—SAFE WORKING LOADS FOR SHACKLES

[In tons of 2000 pounds]

Material size (inches)	Pin diameter (inches)	Safe working load
½	⅝	1.4
⅝	¾	2.2
¾	⅞	3.2
⅞	1	4.3
1	1⅛	5.6
1⅛	1¼	6.7
1¼	1⅜	8.2
1⅜	1½	10.0
1½	1⅝	11.9
1¾	2	16.2
2	2¼	21.2

TABLE H-20—NUMBER AND SPACING OF U-BOLT WIRE ROPE CLIPS

Improved plow steel, rope diameter inches	Number of clips		Minimum spacing (inches)
	Drop forged	Other material	
½	3	4	3
⅝	3	4	3¾
¾	4	5	4½
⅞	4	5	5¼
1	5	6	6
1⅛	6	6	6¾
1¼	6	7	7½
1⅜	7	7	8¼
1½	7	8	9

Subpart I—Tools—Hand and Power [1]

Sec.
1926.300 General requirements.
    1910.212 General requirements for all machines.
1926.301 Handtools.
1926.302 Power operated handtools.
    1910.244 Other portable tools and equipment.
1926.303 Abrasive wheels and tools.
1926.304 Woodworking tools.
1926.305 Jacks—level and ratchet, screw and hydraulic.
    1910.244 Other portable tools and equipment.

§ 1926.300 General requirements.

(a) *Condition of tools.* All hand and power tools and similar equipment, whether furnished by the employer or the employee, shall be maintained in a safe condition.

(b) *Guarding.* (1) When power operated tools are designed to accommodate guards, they shall be equipped with such guards when in use.

(2) Belts, gears, shafts, pulleys, sprockets, spindles, drums, fly wheels, chains, or other reciprocating, rotating or moving parts of equipment shall be guarded if such parts are exposed to contact by employees or otherwise create a hazard. Guarding shall meet the requirements as set forth in American National Standards Institute, B15.1-1953 (R1958), Safety Code for Mechanical Power-Transmission Apparatus.

(c) *Personal protective equipment.* Employees using hand and power tools and exposed to the hazard of falling, flying, abrasive, and splashing objects, or exposed to harmful dusts, fumes, mists, vapors, or gases shall be provided with the particular personal protective equipment necessary to protect them from the hazard. All personal protective equipment shall meet the requirements and be maintained according to Subparts D and E of this part.

(d) *Switches.* (1) All hand-held powered platen sanders, grinders with wheels 2-inch diameter or less, routers, planers, laminate trimmers, nibblers, shears, scroll saws, and jigsaws with blade shanks one-fourth of an inch wide or less may be equipped with only a positive "on-off" control.

(2) All hand-held powered drills, tappers, fastener drivers, horizontal, vertical, and angle grinders with wheels greater than 2 inches in diameter, disc sanders, belt sanders, reciprocating saws, saber saws, and other similar operating powered tools shall be equipped with a momentary contact "on-off" control and may have a lock-on control provided that turnoff can be accomplished by a single motion of the same finger or fingers that turn it on.

(3) All other hand-held powered tools, such as circular saws, chain saws, and percussion tools without positive accessory holding means, shall be equipped with a constant pressure switch that will shut off the power when the pressure is released.

(4) The requirements of this paragraph shall become effective on July 15, 1972.

(5) Exception: This paragraph does not apply to concrete vibrators, concrete breakers, powered tampers, jack hammers, rock drills, and similar hand operated power tools.

> The following requirements from 29 CFR Part 1910 (General Industry) have been identified as applicable to construction (29 CFR 1926.300 *General requirements* (Tools-Hand and Power)).

§ 1910.212 General requirements for all machines.

(a) *Machine guarding.* * * *

(3) *Point of operation guarding.* (i) Point of operation is the area on a machine where work is actually performed upon the material being processed.

(ii) The point of operation of machines whose operation exposes an employee to injury, shall be guarded. The guarding device shall be in conformity with any appropriate standards therefor, or, in the absence of applicable specific standards, shall be so designed and constructed as to prevent the operator from having any part of his body in the danger zone during the operating cycle.

(iii) Special handtools for placing and removing material shall be such as to permit easy handling of material without the operator placing a hand in the danger zone. Such tools shall not be in lieu of other guarding required by this section, but can only be used to supplement protection provided.

(iv) The following are some of the machines which usually require point of operation guarding:

(*a*) Guillotine cutters.
(*b*) Shears.
(*c*) Alligator shears.
(*d*) Power presses.
(*e*) Milling machines.
(*f*) Power saws.
(*g*) Jointers.
(*h*) Portable power tools.
(*i*) Forming rolls and calenders.

* * * * *

(5) *Exposure of blades.* When the periphery of the blades of a fan is less than seven (7) feet above the floor or working level, the blades shall be guarded. The guard shall have openings no larger than one half (½) inch.

* * * * *

(b) *Anchoring fixed machinery.* Machines designed for a fixed location shall be securely anchored to prevent walking or moving.

§ 1926.301 Hand tools.

(a) Employers shall not issue or permit the use of unsafe hand tools.

(b) Wrenches, including adjustable, pipe, end, and socket wrenches shall not be used when jaws are sprung to the point that slippage occurs.

(c) Impact tools, such as drift pins, wedges, and chisels, shall be kept free of mushroomed heads.

(d) The wooden handles of tools shall be kept free of splinters or cracks and shall be kept tight in the tool.

§ 1926.302 Power-operated hand tools.

(a) *Electric power-operated tools.* (1) Electric power operated tools shall either be of the approved double-insulated type or grounded in accordance with Subpart K of this part.

(2) The use of electric cords for hoisting or lowering tools shall not be permitted.

(b) *Pneumatic power tools.* (1) Pneumatic power tools shall be secured to the hose or whip by some positive means to prevent the tool from becoming accidentally disconnected.

(2) Safety clips or retainers shall be securely installed and maintained on

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[1] Portions of the listed Part 1910 standards have been identified as applicable to construction.

pneumatic impact (percussion) tools to prevent attachments from being accidentally expelled.

(3) All pneumatically driven nailers, staplers, and other similar equipment provided with automatic fastener feed, which operate at more than 100 p.s.i. pressure at the tool shall have a safety device on the muzzle to prevent the tool from ejecting fasteners, unless the muzzle is in contact with the work surface.

(4) Compressed air shall not be used for cleaning purposes except where reduced to less than 30 p.s.i. and then only with effective chip guarding and personal protective equipment which meets the requirements of Subpart E of this part. The 30 p.s.i. requirement does not apply for concrete form, mill scale and similar cleaning purposes.

(5) The manufacturer's safe operating pressure for hoses, pipes, valves, filters, and other fittings shall not be exceeded.

(6) The use of hoses for hoisting or lowering tools shall not be permitted.

(7) All hoses exceeding ½-inch inside diameter shall have a safety device at the source of supply or branch line to reduce pressure in case of hose failure.

(8) Airless spray guns of the type which atomize paints and fluids at high pressures (1,000 pounds or more per square inch) shall be equipped with automatic or visible manual safety devices which will prevent pulling of the trigger to prevent release of the paint or fluid until the safety device is manually released.

(9) In lieu of the above, a diffuser nut which will prevent high pressure, high velocity release, while the nozzle tip is removed, plus a nozzle tip guard which will prevent the tip from coming into contact with the operator, or other equivalent protection, shall be provided.

(c) *Fuel powered tools.* (1) All fuel powered tools shall be stopped while being refueled, serviced, or maintained, and fuel shall be transported, handled, and stored in accordance with Subpart F of this part.

(2) When fuel powered tools are used in enclosed spaces, the applicable requirements for concentrations of toxic gases and use of personal protective equipment, as outlined in Subparts D and E of this part, shall apply.

(d) *Hydraulic power tools.* (1) The fluid used in hydraulic powered tools shall be fire-resistant fluids approved under Schedule 30 of the Bureau of Mines, U.S. Department of the Interior, and shall retain its operating characteristics at the most extreme temperatures to which it will be exposed.

(2) The manufacturer's safe operating pressures for hoses, valves, pipes, filters, and other fittings shall not be exceeded.

(e) *Powder-actuated tools.* (1) Only employees who have been trained in the operation of the particular tool in use shall be allowed to operate a powder-actuated tool.

(2) The tool shall be tested each day before loading to see that safety devices are in proper working condition. The method of testing shall be in accordance with the manufacturer's recommended procedure.

(3) Any tool found not in proper working order, or that develops a defect during use, shall be immediately removed from service and not used until properly repaired.

(4) Personal protective equipment shall be in accordance with Subpart E of this part.

(5) Tools shall not be loaded until just prior to the intended firing time. Neither loaded nor empty tools are to be pointed at any employees. Hands shall be kept clear of the open barrel end.

(6) Loaded tools shall not be left unattended.

(7) Fasteners shall not be driven into very hard or brittle materials including, but not limited to, cast iron, glazed tile, surface-hardened steel, glass block, live rock, face brick, or hollow tile.

(8) Driving into materials easily penetrated shall be avoided unless such materials are backed by a substance that will prevent the pin or fastener from passing completely through and creating a flying missile hazard on the other side.

(9) No fastener shall be driven into a spalled area caused by an unsatisfactory fastening.

(10) Tools shall not be used in an explosive or flammable atmosphere.

(11) All tools shall be used with the correct shield, guard, or attachment recommended by the manufacturer.

(12) Powder-actuated tools used by employees shall meet all other applicable requirements of American National Standards Institute, A10.3-1970, Safety Requirements for Explosive-Actuated Fastening Tools.

> The following requirement from 29 CFR Part 1910 (General Industry) have been identified as applicable to construction (29 CFR 1926.302(b), Pneumatic power tools).

§ 1910.244 Other Portable Tools and Equipment.

* * * * *

(b) *Abrasive blast cleaning nozzles.* The blast cleaning nozzles shall be equipped with an operating valve which must be held open manually. A support shall be provided on which the nozzle may be mounted when it is not in use.

§ 1926.303 Abrasive wheels and tools.

(a) *Power.* All grinding machines shall be supplied with sufficient power to maintain the spindle speed at safe levels under all conditions of normal operation.

(b) *Guarding.* Grinding machines shall be equipped with safety guards in conformance with the requirements of American National Standards Institute, B7.1-1970, Safety Code for the Use, Care and Protection of Abrasive Wheels, and paragraph (d) of this section.

(c) *Use of abrasive wheels.* (1) Floor stand and bench mounted abrasive wheels, used for external grinding, shall be provided with safety guards (protection hoods). The maximum angular exposure of the grinding wheel periphery and sides shall be not more than 90°, except that when work requires contact with the wheel below the horizontal plane of the spindle, the angular exposure shall not exceed 125°. In either case, the exposure shall begin not more than 65° above the horizontal plane of the spindle. Safety guards shall be strong enough to withstand the effect of a bursting wheel.

(2) Floor and bench-mounted grinders shall be provided with work rests which are rigidly supported and readily adjustable. Such work rests shall be kept at a distance not to exceed one-eighth inch from the surface of the wheel.

(3) Cup type wheels used for external grinding shall be protected by either a revolving cup guard or a band type guard in accordance with the provisions of the American National Standards Institute, B7.1-1970 Safety Code for the Use, Care, and Protection of Abrasive Wheels. All other portable abrasive wheels used for external grinding, shall be provided with safety guards (protection hoods) meeting the requirements of subparagraph (5) of this paragraph, except as follows:

(i) When the work location makes it impossible, a wheel equipped with safety flanges, as described in subparagraph (6) of this paragraph, shall be used;

(ii) When wheels 2 inches or less in diameter which are securely mounted on the end of a steel mandrel are used.

(4) Portable abrasive wheels used for internal grinding shall be provided with safety flanges (protection flanges) meeting the requirements of subparagraph (6) of this paragraph, except as follows:

(i) When wheels 2 inches or less in diameter which are securely mounted on the end of a steel mandrel are used;

(ii) If the wheel is entirely within the work being ground while in use.

(5) When safety guards are required, they shall be so mounted as to maintain proper alignment with the wheel, and the guard and its fastenings shall

be of sufficient strength to retain fragments of the wheel in case of accidental breakage. The maximum angular exposure of the grinding wheel periphery and sides shall not exceed 180°.

(6) When safety flanges are required, they shall be used only with wheels designed to fit the flanges. Only safety flanges, of a type and design and properly assembled so as to ensure that the pieces of the wheel will be retained in case of accidental breakage, shall be used.

(7) All abrasive wheels shall be closely inspected and ring-tested before mounting to ensure that they are free from cracks or defects.

(8) Grinding wheels shall fit freely on the spindle and shall not be forced on. The spindle nut shall be tightened only enough to hold the wheel in place.

(9) All employees using abrasive wheels shall be protected by eye protection equipment in accordance with the requirements of Subpart E of this part, except when adequate eye protection is afforded by eye shields which are permanently attached to the bench or floor stand.

(d) *Other requirements.* All abrasive wheels and tools used by employees shall meet other applicable requirements of American National Standards Institute, B7.1-1970, Safety Code for the Use, Care and Protection of Abrasive Wheels.

§ 1926.304 Woodworking tools.

(a) *Disconnect switches.* All fixed power driven woodworking tools shall be provided with a disconnect switch that can either be locked or tagged in the off position.

(b) *Speeds.* The operating speed shall be etched or otherwise permanently marked on all circular saws over 20 inches in diameter or operating at over 10,000 peripheral feet per minute. Any saw so marked shall not be operated at a speed other than that marked on the blade. When a marked saw is retensioned for a different speed, the marking shall be corrected to show the new speed.

(c) *Self-feed.* Automatic feeding devices shall be installed on machines whenever the nature of the work will permit. Feeder attachments shall have the feed rolls or other moving parts covered or guarded so as to protect the operator from hazardous points.

(d) *Guarding.* All portable, power-driven circular saws shall be equipped with guards above and below the base plate or shoe. The upper guard shall cover the saw to the depth of the teeth, except for the minimum arc required to permit the base to be tilted for bevel cuts. The lower guard shall cover the saw to the depth of the teeth, except for the minimum arc required to allow proper retraction and contact with the work. When the tool is withdrawn from the work, the lower guard shall automatically and instantly return to the covering position.

(e) *Personal protective equipment.* All personal protective equipment provided for use shall conform to Subpart E of this part.

(f) *Other requirements.* All woodworking tools and machinery shall meet other applicable requirements of American National Standards Institute, 01.1-1961, Safety Code for Woodworking Machinery.

§ 1926.305 Jacks—lever and ratchet, screw, and hydraulic.

(a) *General requirements.* (1) The manufacturer's rated capacity shall be legibly marked on all jacks and shall not be exceeded.

(2) All jacks shall have a positive stop to prevent overtravel.

(b) *Lift slab construction.* (1) Hydraulic jacks used in lift slab construction shall have a safety device which will cause the jacks to support the load in any position in the event the jack malfunctions.

(2) If lift slabs are automatically controlled, a device shall be installed which will stop the operation when the ½-inch leveling tolerance is exceeded.

(c) *Blocking.* When it is necessary to provide a firm foundation, the base of the jack shall be blocked or cribbed. Where there is a possibility of slippage of the metal cap of the jack, a wood block shall be placed between the cap and the load.

> The following requirements from 29 CFR Part 1910 (General Industry) have been identified as applicable to construction (29 CFR 1926.305. Jacks—lever and ratchet, screw, and hydraulic).

§ 1910.244 Other portable tools and equipment.

(a) *Jacks.* * * *

(2) *Operation and maintenance.* * * *

(iii) After the load has been raised, it shall be cribbed, blocked, or otherwise secured at once.

(iv) Hydraulic jacks exposed to freezing temperatures shall be supplied with an adequate antifreeze liquid.

(v) All jacks shall be properly lubricated at regular intervals. The lubricating instructions of the manufacturer should be followed, and only lubricants recommended by him should be used.

(vi) Each jack shall be thoroughly inspected at times which depend upon the service conditions. Inspections shall be not less frequent than the following:

(A) For constant or intermittent use at one locality, once every 6 months,

(B) For jacks sent out of shop for special work, when sent out and when returned,

(C) For a jack subjected to abnormal load or shock, immediately before and immediately thereafter.

(vii) Repair or replacement parts shall be examined for possible defects.

(viii) Jacks which are out of order shall be tagged accordingly, and shall not be used until repairs are made.

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Subpart J—Welding and Cutting

Sec.

1926.350 Gas welding and cutting.
1926.351 Arc Welding and cutting.
1926.352 Fire prevention.
1926.353 Ventilation and protection in welding, cutting, and heating.
1926.354 Welding, cutting and heating in way of preservative coatings.

§ 1926.350 Gas welding and cutting.

(a) *Transporting, moving, and storing compressed gas cylinders.* (1) Valve protection caps shall be in place and secured.

(2) When cylinders are hoisted, they shall be secured on a cradle, slingboard, or pallet. They shall not be hoisted or transported by means of magnets or choker slings.

(3) Cylinders shall be moved by tilting and rolling them on their bottom edges. They shall not be intentionally dropped, struck, or permitted to strike each other violently.

(4) When cylinders are transported by powered vehicles, they shall be secured in a vertical position.

(5) Valve protection caps shall not be used for lifting cylinders from one vertical position to another. Bars shall not be used under valves or valve protection caps to pry cylinders loose when frozen. Warm, not boiling, water shall be used to thaw cylinders loose.

(6) Unless cylinders are firmly secured on a special carrier intended for this purpose, regulators shall be removed and valve protection caps put in place before cylinders are moved.

(7) A suitable cylinder truck, chain, or other steadying device shall be used to keep cylinders from being knocked over while in use.

(8) When work is finished, when cylinders are empty, or when cylinders are moved at any time, the cylinder valve shall be closed.

(9) Compressed gas cylinders shall be secured in an upright position at all times except, if necessary, for short periods of time while cylinders are actually being hoisted or carried.

(b) *Placing cylinders.* (1) Cylinders shall be kept far enough away from the actual welding or cutting operation so that sparks, hot slag, or flame will not reach them. When this is impractical, fire resistant shields shall be provided.

(2) Cylinders shall be placed where they cannot become part of an electrical circuit. Electrodes shall not be struck against a cylinder to strike an arc.

(3) Fuel gas cylinders shall be placed with valve end up whenever they are in use. They shall not be placed in a location where they would be subject to open flame, hot metal, or other sources of artificial heat.

(4) Cylinders containing oxygen or acetylene or other fuel gas shall not be taken into confined spaces.

(c) *Treatment of cylinders.* (1) Cylinders, whether full or empty, shall not be used as rollers or supports.

(2) No person other than the gas supplier shall attempt to mix gases in a cylinder. No one except the owner of the cylinder or person authorized by him, shall refill a cylinder. No one shall use a cylinder's contents for purposes other than those intended by the supplier. All cylinders used shall meet the Department of Transportation requirements published in 49 CFR Part 178, Subpart C, Specification for Cylinders.

(3) No damaged or defective cylinder shall be used.

(d) *Use of fuel gas.* The employer shall thoroughly instruct employees in the safe use of fuel gas, as follows:

(1) Before a regulator to a cylinder valve is connected, the valve shall be opened slightly and closed immediately. (This action is generally termed "cracking" and is intended to clear the valve of dust or dirt that might otherwise enter the regulator.) The person cracking the valve shall stand to one side of the outlet, not in front of it. The valve of a fuel gas cylinder shall not be cracked where the gas would reach welding work, sparks, flame, or other possible sources of ignition.

(2) The cylinder valve shall always be opened slowly to prevent damage to the regulator. For quick closing, valves on fuel gas cylinders shall not be opened more than 1½ turns. When a special wrench is required, it shall be left in position on the stem of the valve while the cylinder is in use so that the fuel gas flow can be shut off quickly in case of an emergency. In the case of manifolded or coupled cylinders, at least one such wrench shall always be available for immediate use. Nothing shall be placed on top of a fuel gas cylinder, when in use, which may damage the safety device or interfere with the quick closing of the valve.

(3) Fuel gas shall not be used from cylinders through torches or other devices which are equipped with shutoff valves without reducing the pressure through a suitable regulator attached to the cylinder valve or manifold.

(4) Before a regulator is removed from a cylinder valve, the cylinder valve shall always be closed and the gas released from the regulator.

(5) If, when the valve on a fuel gas cylinder is opened, there is found to be a leak around the valve stem, the valve shall be closed and the gland nut tightened. If this action does not stop the leak, the use of the cylinder shall be discontinued, and it shall be properly tagged and removed from the work area. In the event that fuel gas should leak from the cylinder valve, rather than from the valve stem, and the gas cannot be shut off, the cylinder shall be properly tagged and removed from the work area. If a regulator attached to a cylinder valve will effectively stop a leak through the valve seat, the cylinder need not be removed from the work area.

(6) If a leak should develop at a fuse plug or other safety device, the cylinder shall be removed from the work area.

(e) *Fuel gas and oxygen manifolds.* (1) Fuel gas and oxygen manifolds shall bear the name of the substance they contain in letters at least 1-inch high which shall be either painted on the manifold or on a sign permanently attached to it.

(2) Fuel gas and oxygen manifolds shall be placed in safe, well ventilated, and accessible locations. They shall not be located within enclosed spaces.

(3) Manifold hose connections, including both ends of the supply hose that lead to the manifold, shall be such that the hose cannot be interchanged between fuel gas and oxygen manifolds and supply header connections. Adapters shall not be used to permit the interchange of hose. Hose connections shall be kept free of grease and oil.

(4) When not in use, manifold and header hose connections shall be capped.

(5) Nothing shall be placed on top of a manifold, when in use, which will damage the manifold or interfere with the quick closing of the valves.

(f) *Hose.* (1) Fuel gas hose and oxygen hose shall be easily distinguishable from each other. The contrast may be made by different colors or by surface characteristics readily distinguishable by the sense of touch. Oxygen and fuel gas hoses shall not be interchangeable. A single hose having more than one gas passage shall not be used.

(2) When parallel sections of oxygen and fuel gas hose are taped together, not more than 4 inches out of 12 inches shall be covered by tape.

(3) All hose in use, carrying acetylene, oxygen, natural or manufactured fuel gas, or any gas or substance which may ignite or enter into combustion, or be in any way harmful to employees, shall be inspected at the beginning of each working shift. Defective hose shall be removed from service.

(4) Hose which has been subject to flashback, or which shows evidence of severe wear or damage, shall be tested to twice the normal pressure to which it is subject, but in no case less than 300 p.s.i. Defective hose, or hose in doubtful condition, shall not be used.

(5) Hose couplings shall be of the type that cannot be unlocked or disconnected by means of a straight pull without rotary motion.

(6) Boxes used for the storage of gas hose shall be ventilated.

(7) Hoses, cables, and other equipment shall be kept clear of passageways, ladders and stairs.

(g) *Torches.* (1) Clogged torch tip openings shall be cleaned with suitable cleaning wires, drills, or other devices designed for such purpose.

(2) Torches in use shall be inspected at the beginning of each working shift for leaking shutoff valves, hose couplings, and tip connections. Defective torches shall not be used.

(3) Torches shall be lighted by friction lighters or other approved devices, and not by matches or from hot work.

(h) *Regulators and gauges.* Oxygen and fuel gas pressure regulators, including their related gauges, shall be in proper working order while in use.

(i) *Oil and grease hazards.* Oxygen cylinders and fittings shall be kept away from oil or grease. Cylinders, cylinder caps and valves, couplings, regulators, hose, and apparatus shall be kept free from oil or greasy substances and shall not be handled with oily hands or gloves. Oxygen shall not be directed at oily surfaces, greasy clothes, or within a fuel oil or other storage tank or vessel.

(j) *Additional rules.* For additional details not covered in this subpart, applicable technical portions of American National Standards Institute, Z49.1-1967, Safety in Welding and Cutting, shall apply.

§ 1926.351 Arc welding and cutting.

(a) *Manual electrode holders.* (1) Only manual electrode holders which are specifically designed for arc welding and cutting, and are of a capacity capable of safely handling the maximum rated current required by the electrodes, shall be used.

(2) Any current-carrying parts passing through the portion of the holder which the arc welder or cutter grips in his hand, and the outer surfaces of the

jaws of the holder, shall be fully insulated against the maximum voltage encountered to ground.

(b) *Welding cables and connectors.* (1) All arc welding and cutting cables shall be of the completely insulated, flexible type, capable of handling the maximum current requirements of the work in progress, taking into account the duty cycle under which the arc welder or cutter is working.

(2) Only cable free from repair or splices for a minimum distance of 10 feet from the cable end to which the electrode holder is connected shall be used, except that cables with standard insulated connectors or with splices whose insulating quality is equal to that of the cable are permitted.

(3) When it becomes necessary to connect or splice lengths of cable one to another, substantial insulated connectors of a capacity at least equivalent to that of the cable shall be used. If connections are effected by means of cable lugs, they shall be securely fastened together to give good electrical contact, and the exposed metal parts of the lugs shall be completely insulated.

(4) Cables in need of repair shall not be used. When a cable, other than the cable lead referred to in subparagraph (2) of this paragraph, becomes worn to the extent of exposing bare conductors, the portion thus exposed shall be protected by means of rubber and friction tape or other equivalent insulation.

(c) *Ground returns and machine grounding.* (1) A ground return cable shall have a safe current carrying capacity equal to or exceeding the specified maximum output capacity of the arc welding or cutting unit which it services. When a single ground return cable services more than one unit, its safe current-carrying capacity shall equal or exceed the total specified maximum output capacities of all the units which it services.

(2) Pipelines containing gases or flammable liquids, or conduits containing electrical circuits, shall not be used as a ground return. For welding on natural gas pipelines, the technical portions of regulations issued by the Department of Transportation, Office of Pipeline Safety, 49 CFR Part 192, Minimum Federal Safety Standards for Gas Pipelines, shall apply.

(3) When a structure or pipeline is employed as a ground return circuit, it shall be determined that the required electrical contact exists at all joints. The generation of an arc, sparks, or heat at any point shall cause rejection of the structures as a ground circuit.

(4) When a structure or pipeline is continuously employed as a ground return circuit, all joints shall be bonded, and periodic inspections shall be conducted to ensure that no condition of electrolysis or fire hazard exists by virtue of such use.

(5) The frames of all arc welding and cutting machines shall be grounded either through a third wire in the cable containing the circuit conductor or through a separate wire which is grounded at the source of the current. Grounding circuits, other than by means of the structure, shall be checked to ensure that the circuit between the ground and the grounded power conductor has resistance low enough to permit sufficient current to flow to cause the fuse or circuit breaker to interrupt the current.

(6) All ground connections shall be inspected to ensure that they are mechanically strong and electrically adequate for the required current.

(d) *Operating instructions.* Employers shall instruct employees in the safe means of arc welding and cutting as follows:

(1) When electrode holders are to be left unattended, the electrodes shall be removed and the holders shall be so placed or protected that they cannot make electrical contact with employees or conducting objects.

(2) Hot electrode holders shall not be dipped in water; to do so may expose the arc welder or cutter to electric shock.

(3) When the arc welder or cutter has occasion to leave his work or to stop work for any appreciable length of time, or when the arc welding or cutting machine is to be moved, the power supply switch to the equipment shall be opened.

(4) Any faulty or defective equipment shall be reported to the supervisor.

(5) Other requirements, as outlined in Article 630, National Electrical Code, NFPA 70-1971; ANSI C1-1971 (Rev. of 1968), Electric Welders, shall be used when applicable.

(e) *Shielding.* Whenever practicable, all arc welding and cutting operations shall be shielded by noncombustible or flameproof screens which will protect employees and other persons working in the vicinity from the direct rays of the arc.

§ 1926.352 Fire prevention.

(a) When practical, objects to be welded, cut, or heated shall be moved to a designated safe location or, if the objects to be welded, cut, or heated cannot be readily moved, all movable fire hazards in the vicinity shall be taken to a safe place, or otherwise protected.

(b) If the object to be welded, cut, or heated cannot be moved and if all the fire hazards cannot be removed, positive means shall be taken to confine the heat, sparks, and slag, and to protect the immovable fire hazards from them.

(c) No welding, cutting, or heating shall be done where the application of flammable paints, or the presence of other flammable compounds, or heavy dust concentrations creates a hazard.

(d) Suitable fire extinguishing equipment shall be immediately available in the work area and shall be maintained in a state of readiness for instant use.

(e) When the welding, cutting, or heating operation is such that normal fire prevention precautions are not sufficient, additional personnel shall be assigned to guard against fire while the actual welding, cutting, or heating operation is being performed, and for a sufficient period of time after completion of the work to ensure that no possibility of fire exists. Such personnel shall be instructed as to the specific anticipated fire hazards and how the firefighting equipment provided is to be used.

(f) When welding, cutting, or heating is performed on walls, floors, and ceilings, since direct penetration of sparks or heat transfer may introduce a fire hazard to an adjacent area, the same precautions shall be taken on the opposite side as are taken on the side on which the welding is being performed.

(g) For the elimination of possible fire in enclosed spaces as a result of gas escaping through leaking or improperly closed torch valves, the gas supply to the torch shall be positively shut off at some point outside the enclosed space whenever the torch is not to be used or whenever the torch is left unattended for a substantial period of time, such as during the lunch period. Overnight and at the change of shifts, the torch and hose shall be removed from the confined space. Open end fuel gas and oxygen hoses shall be immediately removed from enclosed spaces when they are disconnected from the torch or other gas-consuming device.

(h) Except when the contents are being removed or transferred, drums, pails, and other containers, which contain or have contained flammable liquids, shall be kept closed. Empty containers shall be removed to a safe area apart from hot work operations or open flames.

(i) Drums, containers, or hollow structures which have contained toxic or flammable substances shall, before welding, cutting, or heating is undertaken on them, either be filled with water or thoroughly cleaned of such substances and ventilated and tested. For welding, cutting and heating on steel pipelines containing natural gas, the pertinent portions of regulations issued by the Department of Transportation, Office of Pipeline Safety, 49 CFR Part 192, Minimum Federal Safety Standards for Gas Pipelines, shall apply.

(j) Before heat is applied to a drum, container, or hollow structure, a vent or opening shall be provided for the release of any built-up pressure during the application of heat.

§ 1926.353 Ventilation and protection in welding, cutting, and heating.

(a) *Mechanical ventilation.* For purposes of this section, mechanical ventilation shall meet the following requirements:

(1) Mechanical ventilation shall consist of either general mechanical ventilation systems or local exhaust systems.

(2) General mechanical ventilation shall be of sufficient capacity and so arranged as to produce the number of air changes necessary to maintain welding fumes and smoke within safe limits, as defined in Subpart D of this part.

(3) Local exhaust ventilation shall consist of freely movable hoods intended to be placed by the welder or burner as close as practicable to the work. This system shall be of sufficient capacity and so arranged as to remove fumes and smoke at the source and keep the concentration of them in the breathing zone within safe limits as defined in Subpart D of this part.

(4) Contaminated air exhausted from a working space shall be discharged into the open air or otherwise clear of the source of intake air.

(5) All air replacing that withdrawn shall be clean and respirable.

(6) Oxygen shall not be used for ventilation purposes, comfort cooling, blowing dust from clothing, or for cleaning the work area.

(b) *Welding, cutting, and heating in confined spaces.* (1) Except as provided in subparagraph (2) of this paragraph, and paragraph (c)(2) of this section, either general mechanical or local exhaust ventilation meeting the requirements of paragraph (a) of this section shall be provided whenever welding, cutting, or heating is performed in a confined space.

(2) When sufficient ventilation cannot be obtained without blocking the means of access, employees in the confined space shall be protected by air line respirators in accordance with the requirements of Subpart E of this part, and an employee on the outside of such a confined space shall be assigned to maintain communication with those working within it and to aid them in an emergency.

(c) *Welding, cutting, or heating of metals of toxic significance.* (1) Welding, cutting, or heating in any enclosed spaces involving the metals specified in this subparagraph shall be performed with either general mechanical or local exhaust ventilation meeting the requirements of paragraph (a) of this section:

(i) Zinc-bearing base or filler metals or metals coated with zinc-bearing materials;

(ii) Lead base metals;

(iii) Cadmium-bearing filler materials;

(iv) Chromium-bearing metals or metals coated with chromium-bearing materials.

(2) Welding, cutting, or heating in any enclosed spaces involving the metals specified in this subparagraph shall be performed with local exhaust ventilation in accordance with the requirements of paragraph (a) of this section, or employees shall be protected by air line respirators in accordance with the requirements of Subpart E of this part:

(i) Metals containing lead, other than as an impurity, or metals coated with lead-bearing materials;

(ii) Cadmium-bearing or cadmium-coated base metals;

(iii) Metals coated with mercury-bearing metals;

(iv) Beryllium-containing base or filler metals. Because of its high toxicity, work involving beryllium shall be done with both local exhaust ventilation and air line respirators.

(3) Employees performing such operations in the open air shall be protected by filter-type respirators in accordance with the requirements of Subpart E of this part, except that employees performing such operations on beryllium-containing base or filler metals shall be protected by air line respirators in accordance with the requirements of Subpart E of this part.

(4) Other employees exposed to the same atmosphere as the welders or burners shall be protected in the same manner as the welder or burner.

(d) *Inert-gas metal-arc welding.* (1) Since the inert-gas metal-arc welding process involves the production of ultra-violet radiation of intensities of 5 to 30 times that produced during shielded metal-arc welding, the decomposition of chlorinated solvents by ultraviolet rays, and the liberation of toxic fumes and gases, employees shall not be permitted to engage in, or be exposed to the process until the following special precautions have been taken:

(i) The use of chlorinated solvents shall be kept at least 200 feet, unless shielded, from the exposed arc, and surfaces prepared with chlorinated solvents shall be thoroughly dry before welding is permitted on such surfaces.

(ii) Employees in the area not protected from the arc by screening shall be protected by filter lenses meeting the requirements of Subpart E of this part. When two or more welders are exposed to each other's arc, filter lens goggles of a suitable type, meeting the requirements of Subpart E of this part, shall be worn under welding helmets. Hand shields to protect the welder against flashes and radiant energy shall be used when either the helmet is lifted or the shield is removed.

(iii) Welders and other employees who are exposed to radiation shall be suitably protected so that the skin is covered completely to prevent burns and other damage by ultraviolet rays. Welding helmets and hand shields shall be free of leaks and openings, and free of highly reflective surfaces.

(iv) When inert-gas metal-arc welding is being performed on stainless steel, the requirements of paragraph (c)(2) of this section shall be met to protect against dangerous concentrations of nitrogen dioxide.

(e) *General welding, cutting, and heating.* (1) Welding, cutting, and heating, not involving conditions or materials described in paragraph (b), (c), or (d) of this section, may normally be done without mechanical ventilation or respiratory protective equipment, but where, because of unusual physical or atmospheric conditions, an unsafe accumulation of contaminants exists, suitable mechanical ventilation or respiratory protective equipment shall be provided.

(2) Employees performing any type of welding, cutting, or heating shall be protected by suitable eye protective equipment in accordance with the requirements of Subpart E of this part.

§ 1926.354 Welding, cutting, and heating in way of preservative coatings.

(a) Before welding, cutting, or heating is commenced on any surface covered by a preservative coating whose flammability is not known, a test shall be made by a competent person to determine its flammability. Preservative coatings shall be considered to be highly flammable when scrapings burn with extreme rapidity.

(b) Precautions shall be taken to prevent ignition of highly flammable hardened preservative coatings. When coatings are determined to be highly flammable, they shall be stripped from the area to be heated to prevent ignition.

(c) Protection against toxic preservative coatings:

(1) In enclosed spaces, all surfaces covered with toxic preservatives shall be stripped of all toxic coatings for a distance of at least 4 inches from the area of heat application, or the employees shall be protected by air line respirators, meeting the requirements of Subpart E of this part.

(2) In the open air, employees shall be protected by a respirator, in accordance with requirements of Subpart E of this part.

(d) The preservative coatings shall be removed a sufficient distance from the area to be heated to ensure that the temperature of the unstripped metal will not be appreciably raised. Artificial cooling of the metal surrounding the heating area may be used to limit the size of the area required to be cleaned.

Subpart K—Electrical

Sec.
1926.400 General requirements.
1926.401 Grounding and bonding.
1926.402 Equipment installation and maintenance.
1926.403 Battery rooms and battery charging.
1926.404 Hazardous locations.
1926.405 Definitions applicable to this subpart.

§ 1926.400 General Requirements.

(a) All electrical work, installation, and wire capacities shall be in accordance with the pertinent provisions of the National Electrical Code, NFPA 70-1971; ANSI C1-1971 (Rev. of C1-1968), unless otherwise provided by regulations of this part.

(b) *Applicability.* These regulations apply only to electrical installations used on the jobsite, both temporary and permanent. For power distribution and transmission lines, see Subpart V of this part.

(c) *Protection of employees.* (1) No employer shall permit an employee to work in such proximity to any part of an electric power circuit that he may contact the same in the course of his work unless the employee is protected against electric shock by deenergizing the circuit and grounding it or by guarding it by effective insulation or other means. In work areas where the exact location of underground electric power lines is unknown, workmen using jack-hammers, bars, or other hand tools which may contact a line shall be provided with insulated protective gloves.

(2) Before work is begun the employer shall ascertain by inquiry or direct observation, or by instruments, whether any part of an electric power circuit, exposed or concealed, is so located that the performance of the work may bring any person, tool, or machine into physical or electrical contact therewith. The employer shall post and maintain proper warning signs where such a circuit exists. He shall advise his employees of the location of such lines, the hazards involved and the protective measures to be taken.

(d) *Passageways and open spaces.* Suitable barriers or other means shall be provided to ensure that workspace for electrical equipment will not be used as a passageway during periods when energized parts of electrical equipment are exposed.

(e) *Workspace around equipment.* Sufficient space shall be provided and maintained in the area of electrical equipment to permit ready and safe operation and maintenance of such equipment. When parts are exposed, the minimum clearance for the workspace shall be not less than 6¼ feet high, nor less than a radius of 3 feet wide, and there shall be clearance sufficient to permit at least a 90° opening of all doors or hinged panels. All working clearances shall be maintained in accordance with Article 110-16, National Electrical Code, NFPA 70-1971; ANSI C1-1971 (Rev. of C1-1968).

(f) *Load ratings.* In existing installations no changes in circuit protection shall be made to increase the load in excess of the load rating of the circuit wiring, as specified in National Electrical Code, NFPA 70-1971; ANSI C1-1971 (Rev. of C1-1968), Article 310.

(g) *Lockout and tagging of circuits.* (1) Equipment or circuits that are deenergized shall be rendered inoperative and have tags attached at all points where such equipment or circuits can be energized.

(2) Controls that are to be deactivated during the course of work on energized or deenergized equipment or circuits shall be tagged.

(3) Tags shall be placed to identify plainly the equipment or circuits being worked on.

(h) *Ground-fault protection*—(1) *General.* Notwithstanding any other provision of this part, the requirement in section 210-7 of the 1971 National Electrical Code (NFPA 70-1971; ANSI C1-1971) that all 15- and 20-ampere receptacle outlets on single-phase circuits for construction sites have approved ground-fault circuit protection for personnel does not apply. In lieu thereof, the employer shall use either ground-fault circuit interrupters as specified in paragraph (h)(2) of this section or an assured equipment grounding conductor program as specified in paragraph (h)(3) of this section, to protect employees on construction sites. These requirements are in addition to any other requirements for equipment grounding conductors.

(2) *Ground-fault circuit interrupters.* All 120-volt, single-phase, 15- and 20-ampere receptacle outlets on construction sites, which are not a part of the permanent wiring of the building or structure and which are in use by employees, shall have approved ground-fault circuit interrupters for personnel protection. Receptacles on a two-wire, single-phase portable or vehicle-mounted generator rated not more than 5kW, where the circuit conductors of the generator are insulated from the generator frame and all other grounded surfaces, need not be protected with ground-fault circuit interrupters.

(3) *Assured equipment grounding conductor program.* The employer shall establish and implement an assured equipment grounding conductor program on construction sites covering all cord sets, receptacles which are not a part of the permanent wiring of the building or structure, and equipment connected by cord and plug which are available for use or used by employees. This program shall comply with the following minimum requirements:

(i) A written description of the program, including the specific procedures adopted by the employer, shall be available at the jobsite for inspection and copying by the Assistant Secretary and any affected employee.

(ii) The employer shall designate one or more competent persons (as defined in § 1926.32(f)) to implement the program.

(iii) Each cord set, attachment cap, plug and receptacle of cord sets, and any equipment connected by cord and plug except cord sets and receptacles which are fixed and not exposed to damage, shall be visually inspected before each day's use for external defects, such as deformed or missing pins or insulation damage, and for indication of possible internal damage. Equipment found damaged or defective may not be used until repaired.

(iv) The following tests shall be performed on all cord sets, receptacles which are not a part of the permanent wiring of the building or structure, and cord- and plug-connected equipment required to be grounded:

(*a*) All equipment grounding conductors shall be tested for continuity and shall be electrically continuous.

(*b*) Each receptacle and attachment cap or plug shall be tested for correct attachment of the equipment grounding conductor. The equipment grounding conductor shall be connected to its proper terminal.

(v) All required tests shall be performed:

(*a*) Before first use;

(*b*) Before equipment is returned to service following any repairs;

(*c*) Before equipment is used after any incident which can be reasonably suspected to have caused damage (for example, when a cord set is run over); and

(*d*) At intervals not to exceed 3 months, except that cord sets and receptacles which are fixed and not exposed to damage shall be tested at intervals not exceeding 6 months.

(vi) The employer may not make available or permit the use by employees of any equipment which has not met the requirements of this paragraph (h)(3) of this section.

(vii) Tests performed as required in this paragraph shall be recorded. This test record shall identify each receptacle, cord set, and cord- and plug-connected equipment that passed the test, and shall indicate the last date it was tested or the interval for which it was tested. This record shall be kept by means of logs, color coding, or other effective means, and shall be maintained until replaced by a more current record. The record shall be made available on the jobsite for inspection by the Assistant Secretary and any affected employee.

§ 1926.401 Grounding and bonding.

(a) *Portable and/or cord and plug-connected equipment.* (1) The noncurrent-carrying metal parts of portable and/or plug-connected equipment shall be grounded.

(2) Portable tools and appliances protected by an approved system of double insulation, or its equivalent, need not be grounded. Where such an approved system is employed, the equipment shall be distinctively marked.

(b) *Fixed equipment.* Exposed noncurrent-carrying metal parts of fixed electrical equipment, including motors, generators, frames and tracks of electrically operated cranes, electrically driven machinery, etc., shall be grounded.

(c) *Effective grounding.* The path from circuits, equipment, structures, and conduit or enclosures to ground shall be permanent and continuous; have ample carrying capacity to conduct safely the currents liable to be imposed on it; and have impedance sufficiently low to limit the potential above ground and to result in the operation of the overcurrent devices in the circuit.

(d) *Ground resistance.* Driven rod electrodes shall, where practicable, have a resistance to ground not to exceed 25 ohms. Where the resistance is not as low as 25 ohms, two or more electrodes connected in parallel shall be used.

(e) *Testing of grounds.* Grounding circuits shall be checked to ensure that the circuit between the ground and the grounded power conductor has a resistance which is low enough to permit sufficient current to flow to cause the fuse or circuit breaker to interrupt the current.

(f) *Extension cords.* Extension cords used with portable electric tools and appliances shall be of three-wire type.

(g) *Bonding.* (1) Conductors used for bonding and grounding stationary and movable equipment shall be of ample size to carry the anticipated current.

(2) When attaching bonding and grounding clamps or clips, a secure and positive metal-to-metal contact shall be made. Such attachments shall be made before closures are opened and material movements are started and shall not be broken until after material movements are stopped and closures are made.

(h) *Temporary wiring.* All temporary wiring shall be effectively grounded in accordance with the National Electrical Code, NFPA 70-1971; ANSI C1-1971 (Rev. of C1-1968), Articles 305 and 310.

(i) *Construction site.* Precautions shall be taken to make any necessary open wiring inaccessible to unauthorized personnel.

(j) *Temporary lighting.* (1) Temporary lights shall be equipped with guards to prevent accidental contact with the bulb, except that guards are not required when the construction of the reflector is such that the bulb is deeply recessed.

(2) Temporary lights shall be equipped with heavy duty electric cords with connections and insulation maintained in safe condition. Temporary lights shall not be suspended by their electric cords unless cords and lights are designed for this means of suspension. Splices shall have insulation equal to that of the cable.

(3) Working spaces, walkways, and similar locations shall be kept clear of cords so as not to create a hazard to employees.

(4) Portable electric lighting used in moist and/or other hazardous locations, as for example, drums, tanks, and vessels shall be operated at a maximum of 12 volts.

§ 1926.402 Equipment installation and maintenance.

(a) *Flexible cable and cords.* (1) Receptacles for attachment plugs shall be of approved, concealed contact type with a contact for extending ground continuity and shall be so designed and constructed that the plug may be pulled out without leaving any live parts exposed to accidental contact.

(2) Where different voltages, frequencies, or types of current (a.c. or d.c.) are to be supplied by portable cords, receptacles shall be of such design that attachment plugs used on such circuits are not interchangeable.

(3) Attachment plugs or other connectors supplying equipment at more than 300 volts shall be of the skirted type or otherwise so designed that arcs will be confined.

(4) Attachment plugs for use in work areas shall be so constructed that they will endure rough use and be equipped with a suitable cord grip to prevent strain on the terminal screws.

(5) Flexible cord shall be used only in continuous lengths without splice, except suitable molded or vulcanized splices may be used where properly made, and the insulation shall be equal to the cable being spliced and wire connections soldered.

(6) Trailing cables shall be protected from damage.

(7) Splices in trailing cable shall be mechanically strong components and insulated to retain the mechanical and dielectric strength of the original cable.

(8) Cable passing through work areas shall be covered or elevated to protect it from damage which would create a hazard to employees.

(9) Handlamps of the portable type shall be of the molded composition or other type approved for the purpose. Brass-shell, paper-lined lampholders shall not be used. Handlamps shall be equipped with a handle and a substantial guard over the bulb and attached to the lampholder or the handle.

(10) Worn or frayed electric cables shall not be used.

(11) Extension cords shall be protected against accidental damage as may be caused by traffic, sharp corners, or projections and pinching in doors or elsewhere.

(12) Extension cords shall not be fastened with staples, hung from nails, or suspended by wire.

(b) *Overcurrent protection.* (1) Overcurrent protection shall be provided by fuses or circuit breakers for each feeder and branch circuit, and shall be based on the current-carrying capacity of the conductors supplied and the power load being used.

(2) No overcurrent device shall be placed in any permanently grounded conductor, except where the overcurrent device simultaneously opens all conductors of the circuit or for motor running protection.

(3) When fuses are installed or removed with one or both terminals energized, special tools insulated for the voltage shall be used.

(c) *Switches, circuit breakers, and disconnecting means.* (1) Each disconnecting means for motors and appliances, and each service feeder or branch circuit at the point where it originates, shall be legibly marked to indicate its purpose unless located and arranged so the purpose is evident.

(2) Disconnecting means shall be located or shielded so that employees will not be injured.

(3) Boxes for disconnecting means shall be securely and rigidly fastened to the surface upon which they are mounted and fitted with covers.

(4) Boxes and disconnecting means installed in damp or wet locations shall be waterproof to the extent that water does not enter or accumulate.

(d) *Transformers.* (1) Energized transformers and other related electrically energized equipment over 150 volts to ground shall be protected so as to prevent accidental contact with any person. Protection shall be provided by individual integrated housing or by an enclosure, such as an electrical substation fence, which accommodates a group of such equipment. Metallic enclosures shall be grounded.

(2) Access to energized equipment covered by subparagraph (1) of this paragraph shall be secured by lock or other fasteners requiring the use of tools to open them.

(3) Signs indicating danger and prohibiting unauthorized access shall be conspicuously displayed on the housing or other enclosure around the equipment.

(4) Transformers mounted on utility poles at a height of more than 12 feet from the ground are exempt from the requirements of this paragraph.

(e) *Welding and cutting equipment.* Welding and cutting equipment shall meet the requirements specified in Subparts F and J of this part.

§ 1926.403 Battery rooms and battery charging.

(a) *General requirements.* (1) Batteries of the nonseal type shall be located in enclosures with outside vents or in well ventilated rooms, so arranged as to prevent the escape of fumes, gases, or electrolyte spray into other areas.

(2) Ventilation shall be provided to ensure diffusion of the gases from the battery to prevent the accumulation of an explosive mixture.

(3) Racks and trays shall be substantial and treated to be resistant to the electrolyte.

(4) Floors shall be of acid resistant construction or be protected from acid accumulations.

(5) Face shields, aprons, and rubber gloves shall be provided for workmen handling acids or batteries.

(6) Facilities for quick drenching of the eyes and body shall be provided within 25 feet of the work area for emergency use.

(7) Facilities shall be provided for flushing and neutralizing spilled electrolyte, for fire protection, for protecting charging apparatus from damage by trucks, and for adequate ventilation for dispersal of fumes from gassing batteries.

(b) *Charging.* (1) Battery charging installations shall be located in areas designated for that purpose.

(2) When charging batteries, the vent caps shall be kept in place to avoid electrolyte spray. Care shall be taken to assure that vent caps are functioning.

§ 1926.404 Hazardous locations.

(a) General: For the purpose of this section, hazardous locations are defined as follows:

(1) Class I Locations—Class I Locations are those in which flammable gases or vapors are or may be present in quantities sufficient to produce explosive or ignitable mixtures.

(2) Class II Locations—Class II Locations are those which are hazardous because of the presence of combustible dust.

(3) Class III Locations—Class III Locations are those which are hazardous because of the presence of easily ignitable fibers or flyings, but in which such fibers or flyings are not likely to be in suspension in air in quantities sufficient to produce ignitable mixtures.

(4) See the National Electrical Code, NFPA 70-1971; ANSI C1-1971 (Rev. of C1-1968) for further definition of divisions 1 and 2 for each class.

(b) All components and utilization equipment used in a hazardous location shall be chosen from among those listed by a nationally recognized testing laboratory, such as Underwriters' Laboratories, Inc., or Factory Mutual Engineering Corp., except custom-made components and utilization equipment.

(c) Equipment approved for a specific hazardous location shall not be installed or intermixed with equipment approved for another specific hazardous location.

(d) Employer shall ensure that all wiring components and utilization equipment are maintained as vapor, dust, or fiber tight as contemplated by their approvals. There shall be no loose or missing screws, gaskets, threaded connections, or other impairments to this tight condition.

§ 1926.405 Definitions applicable to this subpart.

(a) The definition of "approved" as set forth in § 1910.308(d) of this chapter shall apply.

(b) "Bonding jumper"—a conductor to assure the required electrical conductivity between metal parts required to be electrically connected.

(c) "Branch circuits"—that portion of a wiring system extending beyond the final overcurrent device protecting the circuit. (A device not approved for branch circuit protection, such as thermal cutout or motor overload protective device, is not considered as the overcurrent device protecting the circuit.)

(d) "Circuit breaker"—a device designed to open and close a circuit by manual means, and to open the circuit automatically on a predetermined overload of current, without injury to itself when properly applied within its rating.

(e) "Exposed" (as applied to live parts)—means that a live part can be inadvertently touched or approached nearer than a safe distance by a person. This term applies to parts not suitably guarded, isolated, or insulated.

(f) "Ground"—a conducting connection, whether intentional or accidental, between an electrical circuit or equipment and earth, or to some conducting body which serves in place of the earth.

(g) "Grounded"—connected to earth or to some conducting body which serves in place of the earth.

(h) "Hazard" is considered to include casualty, fire, and shock when applicable.

(i) "Isolated" means not readily accessible to person unless special means of access are used.

(j) "Raceway"—any channel for loosely holding wires or cables in interior work which is designed expressly and used solely for this purpose. Raceways may be of metal, wood, or insulating material, and the term includes wood and metal moldings consisting of a backing and capping, and also metal ducts into which wires are to be pulled.

(k) "Shock hazard"—considered to exist at an accessible part in a circuit between the part and ground, or other accessible parts if the potential is more than 42.4 volts peak and the current through a 1,500-ohm load is more than 5 milliamperes.

(l) "Weatherproof"—so constructed or protected that exposure to the weather shall not interfere with successful operation.

Subpart L—Ladders and Scaffolding [1]

Sec.
1926.450 Ladders.
1926.451 Scaffolding.
1910.21 Definitions.
1910.28 Scaffolds.
1910.29 Manually propelled mobile ladder stands.
1926.452 Definitions applicable to this subpart.

§ 1926.450 Ladders.

(a) *General requirements.* (1) Except where either permanent or temporary stairways or suitable ramps or runways are provided, ladders described in this subpart shall be used to give safe access to all elevations.

(2) The use of ladders with broken or missing rungs or steps, broken or split side rails, or other faulty or defective construction is prohibited. When ladders with such defects are discovered, they shall be immediately withdrawn from service. Inspection of metal ladders shall include checking for corrosion of interiors of open end hollow rungs.

(3) Manufactured portable wood ladders provided by the employer shall be in accordance with the provisions of the American National Standards Institute, A 14.1-1968, Safety Code for Portable Wood Ladders.

(4) Portable metal ladders shall be of strength equivalent to that of wood ladders. Manufactured portable metal ladders provided by the employer shall be in accordance with the provisions of the American National Standards

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[1] Portions of the listed Part 1910 standards have been identified as applicable to construction.

Institute, A 14.2-1956, Safety Code for Portable Metal Ladders.

(5) Fixed ladders shall be in accordance with the provisions of the American National Standards Institute, A 14.3-1956, Safety Code for Fixed Ladders.

(6) Portable ladder feet shall be placed on a substantial base, and the area around the top and bottom of the ladder shall be kept clear.

(7) Portable ladders shall be used at such a pitch that the horizontal distance from the top support to the foot of the ladder is about one-quarter of the working length of the ladder (the length along the ladder between the foot and the top support). Ladders shall not be used in a horizontal position as platforms, runways, or scaffolds.

(8) Ladders shall not be placed in passageways, doorways, driveways, or any location where they may be displaced by activities being conducted on any other work, unless protected by barricades or guards.

(9) The side rails shall extend not less than 36 inches above the landing. When this is not practical, grab rails, which provide a secure grip for an employee moving to or from the point of access, shall be installed.

(10) Portable ladders in use shall be tied, blocked, or otherwise secured to prevent their being displaced.

(11) Portable metal ladders shall not be used for electrical work or where they may contact electrical conductors.

(b) *Job-made ladders.* (1) Job-made ladders shall be constructed for intended use. If a ladder is to provide the only means of access or exit from a working area for 25 or more employees, or simultaneous two-way traffic is expected, a double cleat ladder shall be installed.

(2) Double cleat ladders shall not exceed 24 feet in length.

(3) Single cleat ladders shall not exceed 30 feet in length between supports (base and top landing). If ladders are to connect different landings, or if the length required exceeds this maximum length, two or more separate ladders shall be used, offset with a platform between each ladder. Guardrails and toeboards shall be erected on the exposed sides of the platforms. (See § 1926.451(a)(5).)

(4) The width of single cleat ladders shall be at least 15 inches, but not more than 20 inches, between rails at the top.

(5) Side rails shall be parallel or flared top to bottom by not more than one-quarter of an inch for each 2 feet of length.

(6) Wood side rails of ladders having cleats shall be not less than 1½ inches thick and 3½ inches deep (2 inches by 4 inches nominal) when made of Group 2 or Group 3 woods (see Table L-1). Wood side rails of Group 4 woods (see Table L-1) may be used in the same cross-section of dimensions for cleat ladders up to 20 feet in length.

TABLE L-1

AVERAGE DENSITIES OF VARIOUS SPECIES OF WOOD FOR USE IN LADDERS

Species	*Density (lbs./ft.³)*
GROUP 1	
White ash	41
Beech	43
Birch	44
Rock elm	43
Hickory	50
Locust	47
Hard maple	42
Red maple	36
Red oak	43
White oak	46
Pecan	46
Persimmon	50
GROUP 2	
Douglas fir (coast region)	34
Western larch	38
Southern yellow pine	37
GROUP 3	
Red alder	28
Oregon ash	38
Pumpkin ash	37
Alaska cedar	31
Port Orford cedar	30
Cucumber	34
Cypress	32
Soft elm	36
Douglas fir (Rocky Mountain type)	30
Noble fir	27
Gum	34
West Coast hemlock	30
Magnolia	35
Oregon maple	34
Norway pine	31
Poplar	28
Redwood	25
Eastern spruce	28
Sitka spruce	28
Sycamore	35
Tamarack	37
Tupelo	35
GROUP 4	
Aspen	27
Basswood	25
Buckeye	25
Butternut	27
Incense cedar	25
Western red cedar	23
Black cottonwood	24
White fir	26
Hackberry	37
Eastern hemlock	28
Holly	39
Soft maple	33
Lodgepole pine	29
Idaho white pine	28
Northern white pine	25
Ponderosa pine	28
Sugar pine	26

(7) It is preferable that side rails be continuous. If splicing is necessary to attain the required length, however, the splice must develop the full strength of a continuous side rail of the same length.

(8) 2-inch by 4-inch lumber shall be used for side rails of single cleat ladders up to 16 feet long; 3-inch by 6-inch lumber shall be used for single cleat ladders from 16 to 30 feet in length.

(9) 2-inch by 4-inch lumber shall be used for side and middle rails of double cleat ladders up to 12 feet in length; 2-inch by 6-inch lumber for double cleat ladders from 12 to 24 feet in length.

(10) Wood cleats shall have the following minimum dimensions when made of Group 1 woods (see Table L-1):

TABLE L-2

Length of cleat (inches)	Thickness (inches)	Width (inches)
Up to and including 20	¾	3
Over 20 and up to and including 30	¾	3¾

(11) Cleats may be made of species of any other group of wood (see Table L-1) provided equal or greater strength is maintained.

(12) Cleats shall be inset into the edges of the side rails one-half inch, or filler blocks shall be used on the rails between the cleats. The cleats shall be secured to each rail with three 10d common wire nails or other fasteners of equivalent strength. Cleats shall be uniformly spaced, 12 inches top-to-top.

§ 1926.451 Scaffolding.

(a) *General requirements.* (1) Scaffolds shall be erected in accordance with requirements of this section.

(2) The footing or anchorage for scaffolds shall be sound, rigid, and capable of carrying the maximum intended load without settling or displacement. Unstable objects such as barrels, boxes, loose brick, or concrete blocks, shall not be used to support scaffolds or planks.

(3) No scaffold shall be erected, moved, dismantled, or altered except under the supervision of competent persons.

(4) Guardrails and toeboards shall be installed on all open sides and ends of platforms more than 10 feet above the ground or floor, except needle beam scaffolds and floats (see paragraphs (p) and (w) of this section). Scaffolds 4 feet to 10 feet in height, having a minimum horizontal dimension in either direction of less than 45 inches, shall have standard guardrails installed on all open sides and ends of the platform.

(5) Guardrails shall be 2 x 4 inches, or the equivalent, approximately 42 inches high, with a midrail, when required. Supports shall be at intervals not to exceed 8 feet. Toeboards shall be a minimum of 4 inches in height.

(6) Where persons are required to work or pass under the scaffold, scaffolds shall be provided with a screen between the toeboard and the guardrail, extending along the entire open-

ing, consisting of No. 18 gauge U.S. Standard wire ½-inch mesh, or the equivalent.

(7) Scaffolds and their components shall be capable of supporting without failure at least 4 times the maximum intended load.

(8) Any scaffold including accessories such as braces, brackets, trusses, screw legs, ladders, etc. damaged or weakened from any cause shall be immediately repaired or replaced.

(9) All load-carrying timber members of scaffold framing shall be a minimum of 1,500 fiber (Stress Grade) construction grade lumber. All dimensions are nominal sizes as provided in the American Lumber Standards, except that where rough sizes are noted, only rough or undressed lumber of the size specified will satisfy minimum requirements.

(10) All planking shall be Scaffold Grades, or equivalent, as recognized by approved grading rules for the species of wood used. The maximum permissible spans for 2- x 10-inch or wider planks shall be as shown in the following:

TABLE L-3

MATERIAL

	Full thickness undressed lumber			Nominal thickness lumber[1]	
Working load (p.s.f.)	25	50	75	25	50
Permissible span (ft.)	10	8	6	8	6

[1] Nominal thickness lumber not recommended for heavy duty use.

(11) The maximum permissible span for 1¼- x 9-inch or wider plank of full thickness shall be 4 feet with medium duty loading of 50 p.s.f.

(12) All planking or platforms shall be overlapped (minimum 12 inches), or secured from movement.

(13) An access ladder or equivalent safe access shall be provided.

(14) Scaffold planks shall extend over their end supports not less than 6 inches nor more than 12 inches.

(15) The poles, legs, or uprights of scaffolds shall be plumb, and securely and rigidly braced to prevent swaying and displacement.

(16) Overhead protection shall be provided for men on a scaffold exposed to overhead hazards.

(17) Slippery conditions on scaffolds shall be eliminated as soon as possible after they occur.

(18) No welding, burning, riveting, or open flame work shall be performed on any staging suspended by means of fiber or synthetic rope. Only treated or protected fiber or synthetic ropes shall be used for or near any work involving the use of corrosive substances or chemicals. Specific requirements for boatswain's chairs and float or ship scaffolds are contained in paragraphs (l) and (w) of this section.

(19) Wire, synthetic, or fiber rope used for scaffold suspension shall be capable of supporting at least 6 times the rated load.

(20) The use of shore or lean-to scaffolds is prohibited.

(21) Lumber sizes, when used in this subpart, refer to nominal sizes except where otherwise stated.

(b) *Wood pole scaffolds.* (1) Scaffold poles shall bear on a foundation of sufficient size and strength to spread the load from the pole over a sufficient area to prevent settlement. All poles shall be set plumb.

(2) Where wood poles are spliced, the ends shall be squared and the upper section shall rest squarely on the lower section. Wood splice plates shall be provided on at least two adjacent sides and shall be not less than 4 feet in length, overlapping the abutted ends equally, and have the same width and not less than the cross-sectional area of the pole. Splice plates or other materials of equivalent strength may be used.

(3) Independent pole scaffolds shall be set as near to the wall of the building as practicable.

(4) All pole scaffolds shall be securely guyed or tied to the building or structure. Where the height or length exceeds 25 feet, the scaffold shall be secured at intervals not greater than 25 feet vertically and horizontally.

(5) Putlogs or bearers shall be set with their greater dimension vertical, long enough to project over the ledgers of the inner and outer rows of poles at least 3 inches for proper support.

(6) Every wooden putlog on single pole scaffolds shall be reinforced with a 3/16- x 2-inch steel strip, or equivalent, secured to its lower edge throughout its entire length.

(7) Ledgers shall be long enough to extend over two pole spaces. Ledgers shall not be spliced between the poles. Ledgers shall be reinforced by bearing blocks securely nailed to the side of the pole to form a support for the ledger.

(8) Diagonal bracing shall be provided to prevent the poles from moving in a direction parallel with the wall of the building, or from buckling.

(9) Cross bracing shall be provided between the inner and outer sets of poles in independent pole scaffolds. The free ends of pole scaffolds shall be cross braced.

(10) Full diagonal face bracing shall be erected across the entire face of pole scaffolds in both directions. The braces shall be spliced at the poles. The inner row of poles on medium and heavy duty scaffolds shall be braced in a similar manner.

(11) Platform planks shall be laid with their edges close together so the platform will be tight with no spaces through which tools or fragments of material can fall.

(12) Where planking is lapped, each plank shall lap its end supports at least 12 inches. Where the ends of planks abut each other to form a flush floor, the butt joint shall be at the centerline of a pole. The abutted ends shall rest on separate bearers. Intermediate beams shall be provided where necessary to prevent dislodgment of planks due to deflection, and the ends shall be secured to prevent their dislodgment.

(13) When a scaffold materially changes its direction, the platform planks shall be laid to prevent tipping. The planks that meet the corner putlog at an angle shall be laid first, extending over the diagonally placed putlog far enough to have a good safe bearing, but not far enough to involve any danger from tipping. The planking running in the opposite direction at an angle shall be laid so as to extend over and rest on the first layer of planking.

(14) When moving platforms to the next level, the old platform shall be left undisturbed until the new putlogs or bearers have been set in place, ready to receive the platform planks.

(15) Guardrails, made of lumber not less than 2 x 4 inches (or other material providing equivalent protection), approximately 42 inches high, with a midrail of 1 x 6 inch lumber (or other material providing equivalent protection), and toeboards, shall be installed at all open sides and ends on all scaffolds more than 10 feet above the ground or floor. Toeboards shall be a minimum of 4 inches in height. Wire mesh shall be installed in accordance with paragraph (a)(6) of this section, when required.

(16) All wood pole scaffolds 60 feet or less in height shall be constructed and erected in accordance with Tables L-4 to 10. If they are over 60 feet in height, they shall be designed by a qualified engineer competent in this field, and it shall be constructed and erected in accordance with such design.

TABLE L-4—MINIMUM NOMINAL SIZE AND MAXIMUM SPACING OF MEMBERS OF SINGLE POLE SCAFFOLDS, LIGHT DUTY

	Maximum height of scaffold	
	20 ft.	60 ft.
Uniformly distributed load	Not to exceed 25 p.s.f.	
Poles or uprights	2x4 in	4x4 in.
Pole spacing (longitudinal)	6 ft. 0 in	10 ft. 0 in.
Maximum width of scaffold	5 ft. 0 in	5 ft. 0 in.
Bearers or putlogs to 3 ft. 0 in. width	2x4 in	2x4 in.
Bearers or putlogs to 5 ft. 0 in. width	2x6 in. or 3x4 in	2x6 in. or 3x4 in. (rough).
Ledgers	1x4 in	1¼x9 in.
Planking	1¼x9 in. (rough)	2x10 in.
Vertical spacing of horizontal members	7 ft. 0 in	9 ft. 0 in.
Bracing, horizontal and diagonal	1x4 in	1x4 in.
Tie-ins	1x4 in	1x4 in.
Toeboards	4 in. high (minimum)	4 in. high (minimum).
Guardrail	2x4 in	2x4 in.

All members except planking are used on edge.

TABLE L-5—MINIMUM NOMINAL SIZE AND MAXIMUM SPACING OF MEMBERS OF SINGLE POLE SCAFFOLDS—MEDIUM DUTY

Uniformly distributed load.	Not to exceed 50 p.s.f.
Maximum height of scaffold.	60 ft.
Poles or uprights	4x4 in.
Pole spacing (longitudinal).	8 ft. 0 in.
Maximum width of scaffold.	5 ft. 0 in.
Bearers or putlogs	2x10 in. or 3x4 in.
Spacing of bearers or putlogs.	8 ft. 0 in.
Ledgers	2x10 in.
Vertical spacing of horizontal members.	7 ft. 0 in.
Bracing, horizontal	1x6 in. or 1¼x4 in.
Bracing, diagonal	1x4 in.
Tie-ins	1x4 in.
Planking	2x10 in.
Toeboards	4-in. high (minimum).
Guardrail	2x4 in.

All members except planking are used on edge.

TABLE L-6—MINIMUM NOMINAL SIZE AND MAXIMUM SPACING OF MEMBERS OF SINGLE POLE SCAFFOLDS—HEAVY DUTY

Uniformly distributed load	Not to exceed 75 p.s.f.
Maximum height of scaffold.	60 ft.
Poles or uprights	4x6 in.
Pole spacing (longitudinal).	6 ft. 0 in.
Maximum width of scaffold.	5 ft. 0 in.
Bearers or putlogs	2x10 in. or 3x5 in.
Spacing of bearers or putlog.	6 ft. 0 in.
Ledgers	2x10 in.
Vertical spacing of horizontal members.	6 ft. 6 in.
Bracing, horizontal and diagonal.	2x4 in.
Tie-ins	1x4 in.
Planking	2x10 in.
Toeboards	4-in. high (minimum).
Guardrail	2x4 in.

All members except planking are used on edge.

TABLE L-7—MINIMUM NOMINAL SIZE AND MAXIMUM SPACING OF MEMBERS OF INDEPENDENT POLE SCAFFOLD—LIGHT DUTY

	Maximum height of scaffold	
	20 ft.	60 ft.
Uniformly distributed load	Not to exceed 25 p.s.f.	
Poles or uprights	2x4 in	4x4 in.
Pole spacing (longitudinal)	6 ft. 0 in	10 ft. 0 in.
Pole spacing (transverse)	6 ft. 0 in	10 ft. 0 in.
Ledgers	1¼x4 in	1¼x9 in.
Bearers to 3 ft. 0 in. span	2x4 in	2x4 in.
Bearers to 10 ft. 0 in. span	2x6 in. or 3x4 in	2x10 (rough) or 3x8 in.
Planking	1¼x9 in	2x10 in.
Vertical spacing of horizontal members	7 ft. 0 in	7 ft. 0 in.
Bracing, horizontal and diagonal	1x4 in	1x4 in.
Tie-ins	1x4 in	1x4 in.
Toeboards	4 in. high	4 in. high (minimum)
Guardrail	2x4 in	2x4 in.

All members except planking are used on edge.

TABLE L-8—MINIMUM NOMINAL SIZE AND MAXIMUM SPACING OF MEMBERS OF INDEPENDENT POLE SCAFFOLDS—MEDIUM DUTY

Uniformly distributed load.	Not to exceed 50 p.s.f.
Maximum height of scaffold.	60 ft.
Poles or uprights	4x4 in.
Pole spacing (longitudinal).	8 ft. 0 in.
Pole spacing (transverse).	8 ft. 0 in.
Ledgers	2x10 in.
Vertical spacing of horizontal members.	6 ft. 0 in.
Spacing of bearers	8 ft. 0 in.
Bearers	2x10 in.
Bracing, horizontal	1x6 in. or 1¼x4 in.
Bracing, diagonal	1x4 in.
Tie-ins	1x4 in.
Planking	2x10 in.
Toeboards	4-in. high (minimum).
Guardrail	2x4 in.

All members except planking are used on edge.

TABLE L-9—MINIMUM NOMINAL SIZE AND MAXIMUM SPACING OF MEMBERS OF INDEPENDENT POLE SCAFFOLDS—HEAVY DUTY

Uniformly distributed load.	Not to exceed 75 p.s.f.
Maximum height of scaffold.	60 ft.
Poles or uprights	4x4 in.
Pole spacing (longitudinal).	6 ft. 0 in.
Pole spacing (transverse).	8 ft. 0 in.
Ledgers	2x10 in.
Vertical spacing of horizontal members.	6 ft. 0 in.
Bearers	2x10 in. (rough).
Bracing, horizontal and diagonal.	2x4 in.
Tie-ins	1x4 in.
Planking	2x10 in.
Toeboards	4-in. high (minimum).
Guardrail	2x4 in.

All members except planking are used on edge.

(c) *Tube and coupler scaffolds.* (1) A light duty tube and coupler scaffold shall have all posts, bearers, runners, and bracing of nominal 2-inch O.D. steel tubing. The posts shall be spaced no more than 6 feet apart by 10 feet along the length of the scaffold. Other structural metals when used must be designed to carry an equivalent load. No dissimilar metals shall be used together.

(2) A medium duty tube and coupler scaffold shall have all posts, runners, and bracing of nominal 2-inch O.D. steel tubing. Posts spaced not more than 6 feet apart by 8 feet along the length of the scaffold shall have bearers of nominal 2½-inch O.D. steel tubing. Posts spaced not more than 5 feet apart by 8 feet along the length of the scaffold shall have bearers of nominal 2-inch O.D. steel tubing. Other structural metals, when used, must be designed to carry an equivalent load. No dissimilar metals shall be used together.

(3) A heavy duty tube and coupler scaffold shall have all posts, runners, and bracing of nominal 2-inch O.D. steel tubing, with the posts spaced not more than 6 feet by 6 feet-6 inches. Other structural metals, when used, must be designed to carry an equivalent load. No dissimilar metals shall be used together.

(4) Tube and coupler scaffolds shall be limited in heights and working levels to those permitted in Tables L-10, 11, and 12. Drawings and specifications of all tube and coupler scaffolds above the limitations in Tables L-10, 11, and 12 shall be designed by a qualified engineer competent in this field.

(5) All tube and coupler scaffolds shall be constructed and erected to support four times the maximum intended loads, as set forth in Tables L-10, 11, and 12, or as set forth in the specifications by a licensed professional engineer competent in this field.

TABLE L-10—TUBE AND COUPLER SCAFFOLDS—LIGHT DUTY

Uniformly distributed load	Not to exceed 25 p.s.f.
Post spacing (longitudinal)	10 ft. 0 in.
Post spacing (transverse)	6 ft. 0 in.

Working levels	Additional planked levels	Maximum height
1	8	125 ft.
2	4	125 ft.
3	0	91 ft. 0 in.

TABLE L-11—TUBE AND COUPLER SCAFFOLDS—MEDIUM DUTY

Uniformly distributed load ...	Not to exceed 50 p.s.f.
Post spacing (longitudinal) ...	8 ft. 0 in.
Post spacing (transverse).......	6 ft. 0 in.

Working levels	Additional planked levels	Maximum height
1	6	125 ft.
2	0	78 ft. 0 in.

TABLE L-12—TUBE AND COUPLER SCAFFOLDS—HEAVY DUTY

Uniformly distributed load ...	Not to exceed 75 p.s.f.
Post spacing (longitudinal) ...	6 ft. 6 in.
Post spacing (transverse).......	6 ft. 0 in.

Working levels	Additional planked levels	Maximum height
1	6	125 ft.

(6) Posts shall be accurately spaced, erected on suitable bases, and maintained plumb.

(7) Runners shall be erected along the length of the scaffold, located on both the inside and the outside posts at even height. Runners shall be interlocked to the inside and the outside posts at even heights. Runners shall be interlocked to form continuous lengths and coupled to each post. The bottom runners shall be located as close to the base as possible. Runners shall be placed not more than 6 feet-6 inches on centers.

(8) Bearers shall be installed transversely between posts and shall be securely coupled to the posts bearing on the runner coupler. When coupled directly to the runners, the coupler must be kept as close to the posts as possible.

(9) Bearers shall be at least 4 inches but not more than 12 inches longer than the post spacing or runner spacing.

(10) Cross bracing shall be installed across the width of the scaffold at least every third set of posts horizontally and every fourth runner vertically. Such bracing shall extend diagonally from the inner and outer runners upward to the next outer and inner runners.

(11) Longitudinal diagonal bracing on the inner and outer rows of poles shall be installed at approximately a 45° angle from near the base of the first outer post upward to the extreme top of the scaffold. Where the longitudinal length of the scaffold permits, such bracing shall be duplicated beginning at every fifth post. In a similar manner, longitudinal diagonal bracing shall also be installed from the last post extending back and upward toward the first post. Where conditions preclude the attachment of this bracing to the posts, it may be attached to the runners.

(12) The entire scaffold shall be tied to and securely braced against the building at intervals not to exceed 30 feet horizontally and 26 feet vertically.

(13) Guardrails, made of lumber not less than 2×4 inches (or other material providing equivalent protection), approximately 42 inches high, with a midrail of 1×6 inch lumber (or other material providing equivalent protection), and toeboard shall be installed at all open sides and ends on all scaffolds more than 10 feet above the ground or floor. Toeboards shall be a minimum of 4 inches in height. Wire mesh shall be installed in accordance with paragraph (a)(6) of this section.

(d) *Tubular welded frame scaffolds.* (1) Metal tubular frame scaffolds, including accessories such as braces, brackets, trusses, screw legs, ladders, etc., shall be designed, constructed, and erected to safely support four times the maximum rated load.

(2) Spacing of panels or frames shall be consistent with the loads imposed.

(3) Scaffolds shall be properly braced by cross bracing or diagonal braces, or both, for securing vertical members together laterally, and the cross braces shall be of such length as will automatically square and aline vertical members so that the erected scaffold is always plumb, square, and rigid. All brace connections shall be made secure.

(4) Scaffold legs shall be set on adjustable bases or plain bases placed on mud sills or other foundations adequate to support the maximum rated load.

(5) The frames shall be placed one on top of the other with coupling or stacking pins to provide proper vertical alinement of the legs.

(6) Where uplift may occur, panels shall be locked together vertically by pins or other equivalent suitable means.

(7) To prevent movement, the scaffold shall be secured to the building or structure at intervals not to exceed 30 feet horizontally and 26 feet vertically.

(8) Maximum permissible spans or planking shall be in conformity with paragraph (a)(10) of this section.

(9) Drawings and specifications for all frame scaffolds over 125 feet in height above the base plates shall be designed by a registered professional engineer.

(10) Guardrails made of lumber, not less than 2×4 inches (or other material providing equivalent protection), and approximately 42 inches high, with a midrail of 1×6 inch lumber (or other material providing equivalent protection), and toeboards, shall be installed at all open sides and ends on all scaffolds more than 10 feet above the ground or floor. Toeboards shall be a minimum of 4 inches in height. Wire mesh shall be installed in accordance with paragraph (a)(6) of this section.

(e) *Manually propelled mobile scaffolds.* (1) When free-standing mobile scaffold towers are used, the height shall not exceed four times the minimum base dimension.

(2) Casters shall be properly designed for strength and dimensions to support four times the maximum intended load. All casters shall be provided with a positive locking device to hold the scaffold in position.

(3) Scaffolds shall be properly braced by cross bracing and horizontal bracing conforming with paragraph (d)(3) of this section.

(4) Platforms shall be tightly planked for the full width of the scaffold except for necessary entrance opening. Platforms shall be secured in place.

(5) A ladder or stairway shall be provided for proper access and exit and shall be affixed or built into the scaffold and so located that when in use it will not have a tendency to tip the scaffold. A landing platform must be provided at intervals not to exceed 35 feet.

(6) The force necessary to move the mobile scaffold shall be applied near or as close to the base as practicable and provision shall be made to stabilize the tower during movement from one location to another. Scaffolds shall only be moved on level floors, free of obstructions and openings.

(7) The employer shall not allow employees to ride on manually propelled scaffolds unless the following conditions exist:

(i) The floor or surface is within 3° of level, and free from pits, holes, or obstructions;

(ii) The minimum dimension of the scaffold base when ready for rolling, is at least one-half of the height. Outriggers, if used, shall be installed on both sides of staging;

(iii) The wheels are equipped with rubber or similar resilient tires;

(iv) All tools and materials are secured or removed from the platform before the mobile scaffold is moved.

(8) Scaffolds in use by any persons shall rest upon a suitable footing and shall stand plumb. The casters or wheels shall be locked to prevent any movement.

(9) Mobile scaffolds constructed of metal members shall also conform to applicable provisions of paragraphs (b), (c), or (d) of this section, depending on the material of which they are constructed.

(10) Guardrails made of lumber, not less than 2×4 inches (or other material providing equivalent protection), approximately 42 inches high, with a midrail, of 1×6 inch lumber (or other material providing equivalent protection), and toeboards, shall be installed at all open sides and ends on all scaffolds more than 10 feet above the ground or floor. Toeboards shall be a minimum of 4 inches in height. Wire mesh shall be installed in accordance with paragraph (a)(6) of this section.

(f) *Elevating and rotating work platforms.* Applicable requirements of American National Standards Institute A92.2-1969, Vehicle Mounted Elevating and Rotating Work Platforms, shall be complied with for such equipment, as required by the provisions of § 1926.556.

(g) *Outrigger scaffolds.* (1) Outrigger beams shall extend not more than 6 feet beyond the face of the building. The inboard end of outrigger beams, measured from the fulcrum point to anchorage point, shall be not less than 1½ times the outboard end in length. The beams shall rest on edge, the sides shall be plumb, and the edges shall be horizontal. The fulcrum point of the beam shall rest on a secure bearing at least 6 inches in each horizontal dimension. The beam shall be secured in place against movement and shall be securely braced at the fulcrum point against tipping.

(2) The inboard ends of outrigger beams shall be securely anchored either by means of struts bearing against sills in contact with the overhead beams or ceiling, or by means of tension members secured to the floor joists underfoot, or by both if necessary. The inboard ends of outrigger beams shall be secured against tipping and the entire supporting structure shall be securely braced in both directions to prevent any horizontal movement.

(3) Unless outrigger scaffolds are designed by a registered professional engineer competent in this field, they shall be constructed and erected in accordance with Table L-13. Outrigger scaffolds, designed by a registered professional engineer, shall be constructed and erected in accordance with such design.

TABLE L-13—MINIMUM NOMINAL SIZE AND MAXIMUM SPACING OF MEMBERS OF OUTRIGGER SCAFFOLDS

Maximum scaffold load	Light duty	Medium duty
	25 p.s.f.	50 p.s.f.
Outrigger size	2×10 in	3×10 in.
Maximum outrigger spacing.	10 ft. 0 in	6 ft. 0 in.
Planking	2×10 in	2×10 in.
Guardrail	2×4 in	2×4 in.
Guardrail uprights	2×4 in	2×4 in.
Toeboards	4 in. (minimum).	4 in. (minimum).

(4) Planking shall be laid tight and shall extend to within 3 inches of the building wall. Planking shall be secured to the beams.

(5) Guardrails made of lumber, not less than 2×4 inches (or other material providing equivalent protection), approximately 42 inches high, with a midrail of 1×6 inch lumber (or other material providing equivalent protection), and toeboards, shall be installed at all open sides and ends on all scaffolds more than 10 feet above the ground or floor. Toeboards shall be a minimum of 4 inches in height. Wire mesh shall be installed in accordance with paragraph (a)(6) of this section.

(h) *Masons' adjustable multiple-point suspension scaffolds.* (1) The scaffold shall be capable of sustaining a working load of 50 pounds per square foot and shall not be loaded in excess of that figure.

(2) The scaffold shall be provided with hoisting machines that meet the requirements of Underwriters' Laboratories or Factory Mutual Engineering Corporation.

(3) The platform shall be supported by wire ropes, capable of supporting at least 6 times the intended load, suspended from overhead outrigger beams.

(4) The scaffold outrigger beams shall consist of structural metal securely fastened or anchored to the frame or floor system of the building or structure.

(5) Each outrigger beam shall be equivalent in strength to at least a standard 7-inch, 15.3-pound steel I-beam, at least 15 feet long, and shall not project more than 6 feet 6 inches beyond the bearing point.

(6) Where the overhang exceeds 6 feet 6 inches, outrigger beams shall be composed of stronger beams or multiple beams and be installed under the supervision of a competent person.

(7) All outrigger beams shall be set and maintained with their webs in a vertical position.

(8) A stop bolt shall be placed at each end of every outrigger beam.

(9) The outrigger beam shall rest on suitable wood bearing blocks.

(10) The free end of the suspension wire ropes shall be equipped with proper size thimbles and secured by splicing or other equivalent means. The running ends shall be securely attached to the hoisting drum and at least four turns of wire rope shall at all times remain on the drum. The use of fiber rope is prohibited.

(11) Where a single outrigger beam is used, the steel shackles or clevises with which the wire ropes are attached to the outrigger beams shall be placed directly over the hoisting drums.

(12) The scaffold platform shall be equivalent in strength to at least 2-inch planking. (For maximum planking spans, see paragraph (a)(11) of this section.)

(13) When employees are at work on the scaffold and an overhead hazard exists, overhead protection shall be provided on the scaffold, not more than 9 feet above the platform, consisting of 2-inch planking, or material of equivalent strength, laid tight, and extending not less than the width of the scaffold.

(14) Each scaffold shall be installed or relocated under the supervision of a competent person.

(15) Guardrails made of lumber, not less than 2×4 inches (or other material providing equivalent protection), approximately 42 inches high, with a midrail, and toeboards, shall be installed at all open sides and ends on all scaffolds more than 10 feet above the ground or floor. Toeboards shall be a minimum of 4 inches in height. Wire mesh shall be installed in accordance with paragraph (a)(6) of this section.

(i) *(Swinging scaffolds) two-point suspension.* (1) Two-point suspension scaffold platforms shall be not less than 20 inches nor more than 36 inches wide overall. The platform shall be securely fastened to the hangers by U-bolts or by other equivalent means.

(2) The hangers of two-point suspension scaffolds shall be made of mild steel, or other equivalent materials, having a cross-sectional area capable of sustaining 4 times the maximum rated load, and shall be designed with a support for guardrail, intermediate rail, and toeboard.

(3) When hoisting machines are used on two-point suspension scaffolds, such machines shall be of a design tested and approved by Underwriters' Laboratories or Factory Mutual Engineering Corporation.

(4) The roof irons or hooks shall be of mild steel, or other equivalent material, of proper size and design, securely installed and anchored. Tiebacks of ¾-inch manila rope, or the equivalent, shall serve as a secondary means of anchorage, installed at right angles to the face of the building, whenever possible, and secured to a structurally sound portion of the building.

(5) Two-point suspension scaffolds shall be suspended by wire, synthetic, or fiber ropes capable of supporting at least 6 times the rated load. All other components shall be capable of supporting at least four times the rated load.

(6) The sheaves of all blocks, consisting of at least one double and one single block, shall fit the size and type of rope used.

(7) All wire ropes, fiber and synthetic ropes, slings, hangers, platforms, and other supporting parts shall be inspected before every installation. Periodic inspections shall be made while the scaffold is in use.

(8) On suspension scaffolds designed for a working load of 500 pounds, no more than two men shall be permitted to work at one time. On suspension scaffolds with a working load of 750 pounds, no more than three men shall be permitted to work at one time. Each employee shall be protected by an approved safety life belt attached to a lifeline. The lifeline shall be securely attached to substantial members of the structure (not scaffold), or to securely rigged lines, which will safely suspend the employee in case of a fall. In order to keep the lifeline continuously attached, with a minimum of slack, to a fixed structure, the attachment point of the lifeline shall be appropriately changed as the work progresses.

(9) Two-point suspension scaffolds shall be securely lashed to the building or structure to prevent them from swaying. Window cleaners' anchors shall not be used for this purpose.

(10) The platform of every two-point suspension scaffold shall be one of the following types:

(i) *Ladder-type platforms.* The side stringer shall be of clear straight-grained spruce or materials of equivalent strength and durability. The rungs shall be of straight-grained oak, ash, or hickory, at least 1⅛ inch in diameter, with ⅞-inch tenons mortised into the side stringers at least seven-eighths inch. The stringers shall be tied together with tie rods not less than one-quarter inch in diameter, passing through the stringers and riveted up tight against washers on both ends. The flooring strips shall be spaced not more than five-eighths inch apart except at the side rails where the space may be 1 inch. Ladder-type platforms shall be constructed in accordance with Table L-14.

TABLE L-14—SCHEDULE FOR LADDER-TYPE PLATFORMS

	Length of platform (feet)				
	12	14 and 16	18 and 20	22 and 24	28 and 30
Side Stringers, minimum cross section (finished sizes):					
At ends (inches)	1¾ x 2¾	1¾ x 2¾	1¾ x 3	1¾ x 3	1¾ x 3½.
At middle (inches)	1¾ x 3¾	1¾ x 3¾	1¾ x 4	1¾x 4¼	1¾ x 5.
Reinforcing strip (minimum)	A ⅛ x ⅞-inch steel reinforcing strip or its equivalent shall be attached to the side or underside, full length.				
Rungs	Rungs shall be 1⅛-inches minimum diameter with at least ⅞-inch diameter tenons, and the maximum spacing shall be 12 inches center to center.				
Tie rods:					
Number (minimum)	3	4	4	5	6.
Diameter (minimum	¼ in	¼ in	¼ in	¼ in	¼ in.
Flooring, minimum finished size (inches)	½ x 2¾	½ x 2¾	½ x 2¾	½ x 2¾	½ x 2¾.

(ii) *Plank-type platforms.* Plank-type platforms shall be composed of not less than nominal 2- x 10-inch unspliced planks, properly cleated together on the underside, starting 6 inches from each end; intervals in between shall not exceed 4 feet. The plank-type platform shall not extend beyond the hangers more than 12 inches. A bar or other effective means shall be securely fastened to the platform at each end to prevent its slipping off the hanger. The span between hangers for plank-type platforms shall not exceed 8 feet.

(iii) *Beam-type platforms.* Beam platforms shall have side stringers of lumber not less than 2 x 6 inches set on edge. The span between hangers shall not exceed 12 feet when beam platforms are used. The flooring shall be supported on 2- x 6-inch cross beams, laid flat and set into the upper edge of the stringers with a snug fit, at intervals of not more than 4 feet, securely nailed in place. The flooring shall be of 1- x 6-inch material properly nailed. Floor boards shall not be spaced more than one-half inch apart.

(iv) *Light metal-type platforms,* when used, shall be tested and listed according to Underwriters' Laboratories or Factory Mutual Engineering Corporation.

(11) Guardrails made of lumber, not less than 2 x 4 inches (or other material providing equivalent protection), approximately 42 inches high, with a midrail, and toeboards, shall be installed at all open sides and ends on all scaffolds more than 10 feet above the ground or floor. Toeboards shall be a minimum of 4 inches in height. Wire mesh shall be installed in accordance with paragraph (a)(6) of this section.

(j) *Stone setters' adjustable multiple-point suspension scaffolds.* (1) The scaffold shall be capable of sustaining a working load of 25 pounds per square foot and shall not be overloaded. Scaffolds shall not be used for storage of stone or other heavy materials.

(2) When used, the hoisting machine and its supports shall be of a type tested and listed by Underwriters' Laboratories or Factory Mutual Engineering Corporation.

(3) The platform shall be securely fastened to the hangers by U-bolts or other equivalent means. (For materials and spans, see subdivision (ii) of paragraph (i)(10), Plank-Type Platforms, and Table L-14 of this section.)

(4) The scaffold unit shall be suspended from metal outriggers, iron brackets, wire rope slings, or iron hooks.

(5) Outriggers, when used, shall be set with their webs in a vertical position, securely anchored to the building or structure and provided with stop bolts at each end.

(6) The scaffold shall be supported by wire rope capable of supporting at least 6 times the rated load. All other components shall be capable of supporting at least 4 times the rated load.

(7) The free ends of the suspension wire ropes shall be equipped with proper size thimbles, secured by splicing or other equivalent means. The running ends shall be securely attached to the hoisting drum and at least four turns of wire rope shall remain at the drum at all times.

(8) When two or more scaffolds are used on a building or structure, they shall not be bridged one to the other, but shall be maintained at even height with platforms abutting closely.

(9) Guardrails made of lumber, not less than 2 x 4 inches (or other material providing equivalent protection), approximately 42 inches high, with a midrail, and toeboards, shall be installed at all open sides and ends on all scaffolds more than 10 feet above the ground or floor. Toeboards shall be a minimum of 4 inches in height. Wire mesh shall be installed in accordance with paragraph (a)(6) of this section.

(k) *Single-point adjustable suspension scaffolds.* (1) The scaffolding, including power units or manually operated winches, shall be of a type tested and listed by Underwriters' Laboratories or Factory Mutual Engineering Corporation.

(2) The power units may be either electrically or air motor driven.

(3) All power-operated gears and brakes shall be enclosed.

(4) In addition to the normal operating brake, all power-driven units shall have an emergency brake which engages automatically when the normal speed of descent is exceeded.

(5) The hoisting machines, cables, and equipment shall be regularly serviced and inspected.

(6) The units may be combined to form a two-point suspension scaffold. Such scaffold shall then comply with paragraph (i) of this section.

(7) The supporting cable shall be vertical for its entire length, and the basket shall not be swayed nor the cable fixed to any intermediate points to change the original path of travel.

(8) Suspension methods shall conform to applicable provisions of paragraphs (h) and (i) of this section.

(9) Guards, midrails, and toeboards shall completely enclose the cage or basket. Guardrails shall be no less than 2 x 4 inches or the equivalent, approximately 42 inches above the platform. Midrails shall be 1 x 6 inches or the equivalent, installed equidistant between the guardrail and the platform. Toeboards shall be a minimum of 4 inches in height.

(10) For additional details not covered in this paragraph, applicable technical portions of American National Standards Institute, A120.1-1970, Power-Operated Devices for Exterior Building Maintenance Powered Platforms, shall be used.

(l) *Boatswain's chairs.* (1) The chair seat shall not be less than 12 x 24 inches, and 1-inch thickness. The seat shall be reinforced on the underside by cleats securely fastened to prevent the board from splitting.

(2) The two fiber rope seat slings shall be of ⅝-inch diameter, reeved through the four seat holes so as to cross each other on the underside of the seat.

(3) Seat slings shall be of at least ⅜-inch wire rope when an employee is conducting a heat-producing process, such as gas or arc welding.

(4) The employee shall be protected by a safety belt and lifeline in accordance with § 1926.104. The attachment point of the lifeline to the structure shall be appropriately changed as the work progresses.

(5) The tackle shall consist of correct size ball bearing or bushed blocks and properly spliced ⅝-inch diameter first-grade manila rope, or equivalent.

(6) The roof irons, hooks, or the object to which the tackle is anchored, shall be securely installed. Tiebacks, when used, shall be installed at right angles to the face of the building and securely fastened.

(m) *Carpenters' bracket scaffolds.* (1) The brackets shall consist of a triangular wood frame not less than 2 x 3 inches in cross section, or of metal of equivalent strength. Each member shall be properly fitted and securely joined.

(2) Each bracket shall be attached to the structure by means of one of the following:

(i) A bolt, no less than five-eighths inch in diameter, which shall extend through to the inside of the building wall;

(ii) A metal stud attachment device;

(iii) Welding to steel tanks;

(iv) Hooking over a well-secured and adequately strong supporting member.

(3) The brackets shall be spaced no more than 8 feet apart.

(4) No more than two employees shall occupy any given 8 feet of a bracket scaffold at any one time. Tools and materials shall not exceed 75 pounds in addition to the occupancy.

(5) The platform shall consist of not less than two 2- x 10-inch nominal size planks extending not more than 12 inches or less than 6 inches beyond each end support.

(6) Guardrails made of lumber, not less than 2 x 4 inches (or other material providing equivalent protection), approximately 42 inches high, with a midrail, of 1 x 6 inch lumber (or other material providing equivalent protection), and toeboards, shall be installed at all open sides and ends on all scaffolds more than 10 feet above the ground or floor. Toeboards shall be a minimum of 4 inches in height. Wire mesh shall be installed in accordance with paragraph (a)(6) of this section.

(n) *Bricklayers' square scaffolds.* (1) The squares shall not exceed 5 feet in width and 5 feet in height.

(2) Members shall be not less than those specified in Table L-15.

TABLE L-15—MINIMUM DIMENSIONS FOR BRICKLAYERS' SQUARE SCAFFOLD MEMBERS

Members	*Dimensions*
Bearers or horizontal members	2 x 6 in.
Legs	2 x 6 in.
Braces at corners	1 x 6 in.
Braces diagonally from center frame.	1 x 8 in.

(3) The squares shall be reinforced on both sides of each corner with 1- x 6-inch gusset pieces. They shall also have diagonal braces 1 x 8 inches on both sides running from center to center of each member, or other means to secure equivalent strength and rigidity.

(4) The squares shall be set not more than 5 feet apart for medium duty scaffolds, and not more than 8 feet apart for light duty scaffolds. Bracing, 1 x 8 inches, extending from the bottom of each square to the top of the next square, shall be provided on both front and rear sides of the scaffold.

(5) Platform planks shall be at least 2- x 10-inch nominal size. The ends of the planks shall overlap the bearers of the squares and each plank shall be supported by not less than three squares.

(6) Bricklayers' square scaffolds shall not exceed three tiers in height and shall be so constructed and arranged that one square shall rest directly above the other. The upper tiers shall stand on a continuous row of planks laid across the next lower tier and be nailed down or otherwise secured to prevent displacement.

(7) Scaffolds shall be level and set upon a firm foundation.

(o) *Horse scaffolds.* (1) Horse scaffolds shall not be constructed or arranged more than two tiers or 10 feet in height.

(2) The members of the horses shall be not less than those specified in Table L-16.

TABLE L-16—MINIMUM DIMENSIONS FOR HORSE SCAFFOLD MEMBERS

Members	*Dimensions*
Horizontal members or bearers.	3 x 4 in.
Legs	1¼ x 4½ in.
Longitudinal brace between legs.	1 x 6 in.
Gusset brace at top of legs	1 x 8 in.
Half diagonal braces	1¼ x 4½ in.

(3) Horses shall be spaced not more than 5 feet for medium duty and not more than 8 feet for light duty.

(4) When arranged in tiers, each horse shall be placed directly over the horse in the tier below.

(5) On all scaffolds arranged in tiers, the legs shall be nailed down or otherwise secured to the planks to prevent displacement or thrust and each tier shall be substantially cross braced.

(6) Horses or parts which have become weak or defective shall not be used.

(7) Guardrails made of lumber, not less than 2 x 4 inches (or other material providing equivalent protection), approximately 42 inches high, with a midrail, of 1 x 6 inch lumber (or other material providing equivalent protection), and toeboards, shall be installed at all open sides and ends on all scaffolds more than 10 feet above the ground or floor. Toeboards shall be a minimum of 4 inches in height. Wire mesh shall be installed in accordance with paragraph (a)(6) of this section.

(p) *Needle beam scaffold.* (1) Wood needle beams shall be not less than 4 x 6 inches in size, with the greater dimension placed in a vertical direction. Metal beams or the equivalent, conforming to paragraphs (a)(8) and (10) of this section, may be used and shall not be altered or moved horizontally while they are in use.

(2) Ropes or hangers shall be provided for supports. The span between supports on the needle beam shall not exceed 10 feet for 4-x 6-inch timbers. Rope supports shall be equivalent in strength to 1-inch diameter first-grade manila rope.

(3) The ropes shall be attached to the needle beams by a scaffold hitch or a properly made eye splice. The loose end of the rope shall be tied by a bowline knot or by a round turn and a half hitch.

(4) The scaffold hitch shall be arranged so as to prevent the needle beam from rolling or becoming otherwise displaced.

(5) The platform span between the needle beams shall not exceed 8 feet when using 2-inch scaffold plank. For

spans greater than 8 feet, platforms shall be designed based on design requirements for the special span. The overhang of each end of the platform planks shall be not less than 6 inches and not more than 12 inches.

(6) When needle beam scaffolds are used, the planks shall be secured against slipping.

(7) All unattached tools, bolts, and nuts used on needle beam scaffolds shall be kept in suitable containers, properly secured.

(8) One end of a needle beam scaffold may be supported by a permanent structural member conforming to paragraphs (a)(8) and (10) of this section.

(9) Each employee working on a needle beam scaffold shall be protected by a safety belt and lifeline in accordance with § 1926.104.

(q) *Plasterers', decorators', and large area scaffolds.* (1) Plasterers', lathers', and ceiling workers' inside scaffolds shall be constructed in accordance with the general requirements set forth for independent wood pole scaffolds. (See paragraph (b) and Tables L-7, 8, and 9 of this section.)

(2) All platform planks shall be laid with the edges close together.

(3) When independent pole scaffold platforms are erected in sections, such sections shall be provided with connecting runways equipped with substantial guardrails.

(4) Guardrails made of lumber, not less than 2 x 4 inches (or other material providing equivalent protection), approximately 42 inches high, with a midrail of 1 x 6 inch lumber (or other material providing equivalent protection), and toeboards, shall be installed on all open sides and ends of all scaffolds more than 10 feet above the ground or floor. Toeboards shall be a minimum of 4 inches in height. Wire mesh shall be installed in accordance with paragraph (a)(6) of this section.

(r) *Interior hung scaffolds.* (1) An interior hung scaffold shall be hung or suspended from the roof structure or ceiling beams.

(2) The suspending wire or fiber rope shall be capable of supporting at least 6 times the rated load. The rope shall be wrapped at least twice around the supporting members and twice around the bearers of the scaffold, with each end of the wire rope secured by at least three standard wire-rope clips properly installed.

(3) For hanging wood scaffolds, the following minimum nominal size material shall be used:

(i) Supporting bearers 2 x 10 inches on edge;

(ii) Planking 2 x 10 inches, with maximum span 7 feet for heavy duty and 10 feet for light duty or medium duty.

(4) Steel tube and coupler members may be used for hanging scaffolds with both types of scaffold designed to sustain a uniform distributed working load up to heavy duty scaffold loads with a safety factor of four.

(5) Guardrails made of lumber, not less than 2 x 4 inches (or other material providing equivalent protection), approximately 42 inches high, with a midrail of 1 x 6 inch lumber (or other material providing equivalent protection), and toeboards, shall be installed at all open sides and ends on all scaffolds more than 10 feet above the ground or floor. Toeboards shall be a minimum of 4 inches in height. Wire mesh shall be installed in accordance with paragraph (a)(6) of this section.

(s) *Ladder jack scaffolds.* (1) All ladder jack scaffolds shall be limited to light duty and shall not exceed a height of 20 feet above the floor or ground.

(2) All ladders used in connection with ladder jack scaffolds shall be heavy-duty ladders and shall be designed and constructed in accordance with American National Standards Institute A 14.1-1968, Safety Code for Portable Wood Ladders, and A 14.2-1968, Safety Code for Portable Metal Ladders. Cleated ladders shall not be used for this purpose.

(3) The ladder jack shall be so designed and constructed that it will bear on the side rails in addition to the ladder rungs, or if bearing on rungs only, the bearing area shall be at least 10 inches on each rung.

(4) Ladders used in conjunction with ladder jacks shall be so placed, fastened, held, or equipped with devices so as to prevent slipping.

(5) The wood platform planks shall be not less than 2 inches nominal in thickness. Both metal and wood platform planks shall overlap the bearing surface not less than 12 inches. The span between supports for wood shall not exceed 8 feet. Platform width shall be not less than 18 inches.

(6) Not more than two employees shall occupy any given 8 feet of any ladder jack scaffold at any one time.

(t) *Window jack scaffolds.* (1) Window jack scaffolds shall be used only for the purpose of working at the window opening through which the jack is placed.

(2) Window jacks shall not be used to support planks placed between one window jack and another or for other elements of scaffolding.

(3) Window jack scaffolds shall be provided with guardrails unless safety belts with lifelines are attached and provided for employee.

(4) Not more than one employee shall occupy a window jack scaffold at any one time.

(u) *Roofing brackets.* (1) Roofing brackets shall be constructed to fit the pitch of the roof.

(2) Brackets shall be secured in place by nailing in addition to the pointed metal projections. When it is impractical to nail brackets, rope supports shall be used. When rope supports are used, they shall consist of first-grade manila of at least ¾-inch diameter, or equivalent.

(3) A catch platform shall be installed below the working area of roofs more than 16 feet from the ground to eaves with a slope greater than 4 inches in 12 inches without a parapet. In width, the platform shall extend 2 feet beyond the protection of the eaves and shall be provided with a guardrail, midrail, and toeboard. This provision shall not apply where employees engaged in work upon such roofs are protected by a safety belt attached to a lifeline.

(v) *Crawling boards or chicken ladders.* (1) Crawling boards shall be not less than 10 inches wide and 1 inch thick, having cleats 1 × 1½ inches. The cleats shall be equal in length to the width of the board and spaced at equal intervals not to exceed 24 inches. Nails shall b be driven through and clinched on the underside. The crawling board shall extend from the ridge pole to the eaves when used in connection with roof construction, repair, or maintenance.

(2) A firmly fastened lifeline of at least ¾-inch diameter rope, or equivalent, shall be strung beside each crawling board for a handhold.

(3) Crawling boards shall be secured to the roof by means of adequate ridge hooks or other effective means.

(w) *Float or ship scaffolds.* (1) Float or ship scaffolds shall not be used to support more than three men and a few light tools, such as those needed for riveting, bolting, and welding. They shall be constructed as designed in subparagraph (s)(2) through (6) of this paragraph unless substitute designs and materials provide equivalent strength, stability, and safety.

(2) The platform shall be not less than 3 feet wide and 6 feet long, made of ¾-inch plywood, equivalent to American Plywood Association Grade B-B, Group I, Exterior, or other similar material.

(3) Under the platform, there shall be two supporting bearers made from 2- x 4-inch, or 1- x 10-inch, rough, "selected lumber," or better. They shall be free of knots or other flaws and project 6 inches beyond the platform on both sides. The ends of the platform shall extend 6 inches beyond the outer edges of the bearers. Each bearer shall be securely fastened to the platform.

(4) An edging of wood not less than ¾ x 1½ inches or equivalent shall be

placed around all sides of the platform to prevent tools from rolling off.

(5) Supporting ropes shall be 1-inch diameter manila rope or equivalent, free from deterioration, chemical damage, flaws, or other imperfections. Rope connections shall be such that the platform cannot shift or slip. If two ropes are used with each float, they shall be arranged so as to provide four ends which are to be securely fastened to an overhead support. Each of the two supporting ropes shall be hitched around one end of bearer and pass under the platforms to the other end of the bearer where it is hitched again, leaving sufficient rope at each end for the supporting ties.

(6) Each employee shall be protected by an approved safety lifebelt and lifeline, in accordance with § 1926.104.

(x) *Form scaffolds.* (1) Form scaffolds shall be constructed of wood or other suitable materials, such as steel or aluminum members of known strength characteristics. All scaffolds shall be designed and erected with a minimum safety factor of 4, computed on the basis of the maximum rated load.

(2) All scaffold planking shall be a minimum of 2- x 10-inch nominal Scaffold Grade, as recognized by approved grading rules for the species of lumber used, or equivalent material. Maximum permissible spans shall not exceed 8 feet on centers for 2- x 10-inch nominal planking. Scaffold planks shall be either nailed or bolted to the ledgers or of such length that they overlap the ledgers at least 6 inches. Unsupported projecting ends of scaffolding planks shall be limited to a maximum overhang of 12 inches.

(3) Scaffolds shall not be loaded in excess of the working load for which they were designed.

(4) Figure-four form scaffolds: (i) Figure-four scaffolds are intended for light duty and shall not be used to support loads exceeding 25 pounds per square foot unless specifically designed for heavier loading. For minimum design criteria, see Table L-17.

TABLE L-17—MINIMUM DESIGN CRITERIA FOR FIGURE-FOUR FORM SCAFFOLDS

Members	*Dimensions*
Uprights	2 x 4 in. or 2 x 6 in.
Outriggers ledgers (two)	1 x 6 in.
Braces	1 x 6 in.
Guardrails	2 x 4 in.
Guardrail height	Approximately 42 in.
Intermediate guardrails	1 x 6 in.
Toeboards	4 in. (minimum).
Maximum length of ledgers	3 ft. 6 in. (unsupported).
Planking	2 x 10 in.
Upright spacing	8 ft. 0 in. (on centers).

(ii) Figure-four form scaffold frames shall be spaced not more than 8 feet on centers and constructed from sound lumber, as follows: The outrigger ledger shall consist of two pieces of 1- x 6-inch or heavier material nailed on opposite sides of the vertical form support. Ledgers shall project not more than 3 feet 6 inches from the outside of the form support and shall be substantially braced and secured to prevent tipping or turning. The knee or angle brace shall intersect the ledger at least 3 feet from the form at an angle of approximately 45°, and the lower end shall be nailed to a vertical support. The platform shall consist of two or more 2- x 10-inch planks, which shall be of such length that they extend at least 6 inches beyond ledgers at each end unless secured to the ledgers. When planks are secured to the ledgers (nailed or bolted), a wood filler strip shall be used between the ledgers. Unsupported projecting ends of planks shall be limited to an overhang of 12 inches.

(5) Metal bracket form scaffolds: (i) Metal brackets or scaffold jacks which are an integral part of the form shall be securely bolted or welded to the form. Folding type brackets shall be either bolted or secured with a locking-type pin when extended for use.

(ii) "Clip-on" or "hook-over" brackets may be used, provided the form walers are bolted to the form or secured by snap ties or shea-bolt extending through the form and securely anchored.

(iii) Metal brackets shall be spaced not more than 8 feet on centers.

(iv) Scaffold planks shall be either bolted to the metal brackets or of such length that they overlap the brackets at each end by at least 6 inches. Unsupported projecting ends of scaffold planks shall be limited to a maximum overhang of 12 inches.

(v) Metal bracket form scaffolds shall be equipped with wood guardrails, intermediate rails, toeboards, and scaffold planks meeting the minimum dimensions shown in Table L-18. (Metal may be substituted for wood, providing it affords equivalent or greater design strength.)

(6) Wooden bracket form scaffolds: (i) Wooden bracket form scaffolds shall be an integral part of the form panel. The minimum design criteria set forth herein and in Table L-19 cover scaffolding intended for light duty and shall not be used to support loads exceeding 25 pounds per square foot, unless specifically designed for heavier loading.

(ii) Scaffold planks shall be either nailed or bolted to the ledgers or of such length that they overlap the ledgers at each end by at least 6 inches. Unsupported projecting ends of scaffold planks shall be limited to a maximum overhang of 12 inches.

TABLE L-18—MINIMUM DESIGN CRITERIA FOR METAL BRACKET FORM SCAFFOLDS

Members	*Dimensions*
Uprights	2 x 4 in.
Guardrails	2 x 4 in.
Guardrail height	Approximately 42 in.
Intermediate guardrails	1 x 6 in.
Toeboards	4 in. (minimum).
Planking	2 x 9 in.

TABLE L-19—MINIMUM DESIGN CRITERIA FOR WOODEN BRACKET FORM SCAFFOLDS

Members	*Dimensions*
Uprights	2 x 4 in. or 2 x 6 in.
Support ledgers	2 x 6 in.
Maximum scaffold width	3 ft. 6 in.
Braces	1 x 6 in.
Guardrails	2 x 4 in.
Guardrail height	Approximately 42 in.
Intermediate guardrails	1 x 6 in.
Toeboards	4 in. (minimum).
Upright spacing	8 ft. 0 in. (on centers).

(iii) Guardrails and toeboards shall be installed on all open sides and ends of platforms and scaffolding over 10 feet above floor or ground. Guardrails shall be made of lumber 2 x 4 inch nominal dimension (or other material providing equivalent protection), approximately 42 inches high, supported at intervals not to exceed 8 feet. Guardrails shall be equipped with midrails constructed of 1 x 6 inch nominal lumber (or other material providing equivalent protection). Toeboards shall extend not less than 4 inches above the scaffold plank.

(y) *Pump jack scaffolds.* (1) Pump jack scaffolds shall:

(i) Not carry a working load exceeding 500 pounds; and

(ii) Be capable of supporting without failure at least four times the maximum intended load.

(iii) The manufactured components shall not be loaded in excess of the manufacturer's recommended limits.

(2) Pump jack brackets, braces, and accessories shall be fabricated from metal plates and angles. Each pump jack bracket shall have two positive gripping mechanisms to prevent any failure or slippage.

(3) The platform bracket shall be fully decked and the planking secured. Planking, or equivalent, shall conform with paragraph (a) of this section.

(4)(i) When wood scaffold planks are used as platforms, poles used for pump jacks shall not be spaced more than 10 feet center to center. When fabricated platforms are used that fully comply with all other provisions of this paragraph (y), pole spacing may exceed 10 feet center to center.

(ii) Poles shall not exceed 30 feet in height.

(iii) Poles shall be secured to the work wall by rigid triangular bracing, or equivalent, at the bottom, top, and other points as necessary, to provide a maximum vertical spacing of not more than 10 feet between braces. Each brace shall be capable of supporting a minimum of 225 pounds tension or compression.

(iv) For the pump jack bracket to pass bracing already installed, an extra brace shall be used approximately 4 feet above the one to be passed until the original brace is reinstalled.

(5) All poles shall bear on mud sills or other adequate firm foundations.

(6) Pole lumber shall be two 2 x 4's, of Douglas fir, or equivalent, straight-grained, clear, free of cross-grain, shakes, large loose or dead knots, and other defects which might impair strength.

(7) When poles are constructed of two continuous lengths, they shall be two by fours, spiked together with the seam parallel to the bracket, and with 10d common nails, no more than 12 inches center to center, staggered uniformly from opposite outside edges.

(8) If two by fours are spliced to make up the pole, the splices shall be so constructed as to develop the full strength of the member.

(9) A ladder, in accordance with § 1926.450, shall be provided for access to the platform during use.

(10) Not more than two persons shall be permitted at one time upon a pump jack scaffold between any two supports.

(11) Pump jacks scaffolds shall be provided with standard guardrails as defined in § 1926.451(a)(15), but no guardrail is required when safety belts with lifelines are provided for employees.

(12) When a work bench is used at an approximate height of 42 inches, the top guardrail may be eliminated, if the work bench is fully decked, the planking secured, and is capable of withstanding 200 pounds pressure in any direction.

(13) Employees shall not be permitted to use a work bench as a scaffold platform.

The following requirements from 29 CFR Part 1910 (General Industry) have been identified as applicable to construction (29 CFR 1926.451 *Scaffolding*), in accordance with their respective scope and definitions.

§ 1910.21 Definitions.

* * * * *

(g) * * *

(9) *Ladder stand.* A mobile fixed size self-supporting ladder consisting of a wide flat tread ladder in the form of stairs. The assembly may include handrails.

* * * * *

§ 1910.28 Safety requirements for scaffolding.

(a) * * *

(15) Materials being hoisted onto a scaffold shall have a tag line.

* * * * *

(18) Employees shall not work on scaffolds during storms or high winds.

* * * * *

(20) Tools, materials, and debris shall not be allowed to accumulate in quantities to cause a hazard.

* * * * *

§ 1910.29 Manually propelled mobile ladder stands and scaffolds (towers).

(a) *General requirements.*—(1) *Application.* This section is intended to prescribe rules and requirements for the design, construction, and use of mobile work platforms (including ladder stands but not including aerial ladders) and rolling (mobile) scaffolds (towers). This standard is promulgated to aid in providing for the safety of life, limb, and property, by establishing minimum standards for structural design requirements and for the use of mobile work platforms and towers.

(2) *Working loads.* (i) Work platforms and scaffolds shall be capable of carrying the design load under varying circumstances depending upon the conditions of use. Therefore, all parts and appurtenances necessary for their safe and efficient utilization must be integral parts of the design.

(ii) Specific design and construction requirements are not a part of this section because of the wide variety of materials and design possibilities. However, the design shall be such as to produce a mobile ladder stand or scaffold that will safely sustain the specified loads. The material selected shall be of sufficient strength to meet the test requirements and shall be protected against corrosion or deterioration.

(*a*) The design working load of ladder stands shall be calculated on the basis of one or more 200-pound persons together with 50 pounds of equipment each.

(*b*) The design load of all scaffolds shall be calculated on the basis of:

Light—Designed and constructed to carry a working load of 25 pounds per square foot.

Medium—Designed and constructed to carry a working load of 50 pounds per square foot.

Heavy—Designed and constructed to carry a working load of 75 pounds per square foot.

All ladder stands and scaffolds shall be capable of supporting at least four times the design working load.

(iii) The materials used in mobile ladder stands and scaffolds shall be of standard manufacture and conform to standard specifications of strength, dimensions, and weights, and shall be selected to safely support the design working load.

(iv) Nails, bolts, or other fasteners used in the construction of ladders, scaffolds, and towers shall be of adequate size and in sufficient numbers at each connection to develop the designed strength of the unit. Nails shall be driven full length. (All nails should be immediately withdrawn from dismantled lumber.)

(v) All exposed surfaces shall be free from sharp edges, burrs or other safety hazards.

(3) *Work levels.* (i) The maximum work level height shall not exceed four (4) times the minimum or least base dimensions of any mobile ladder stand or scaffold. Where the basic mobile unit does not meet this requirement, suitable outrigger frames shall be employed to achieve this least base dimension, or provisions shall be made to guy or brace the unit against tipping.

(ii) The minimum platform width for any work level shall not be less than 20 inches for mobile scaffolds (towers). Ladder stands shall have a minimum step width of 16 inches.

(iii) The supporting structure for the work level shall be rigidly braced, using adequate cross bracing or diagonal bracing with rigid platforms at each work level.

(iv) The steps of ladder stands shall be fabricated from slip resistant treads.

(v) The work level platform of scaffolds (towers) shall be of wood, aluminum, or plywood planking, steel or expanded metal, for the full width of the scaffold, except for necessary openings. Work platforms shall be secured in place. All planking shall be 2-inch (nominal) scaffold grade minimum 1,500 *f.* (stress grade) construction grade lumber or equivalent.

(vi) All scaffold work levels 10 feet or higher above the ground or floor shall have a standard (4-inch nominal) toeboard.

(vii) All work levels 10 feet or higher above the ground or floor shall have a guardrail of 2- by 4-inch nominal or the equivalent installed no less than 36 inches or more than 42 inches high, with a mid-rail, when required, of 1- by 4-inch nominal lumber or equivalent.

(viii) A climbing ladder or stairway shall be provided for proper access and egress, and shall be affixed or built into the scaffold and so located that its use will not have a tendency to tip the scaffold. A landing platform shall be provided at intervals not to exceed 30 feet.

(4) *Wheels or casters.* (i) Wheels or casters shall be properly designed for strength and dimensions to support four (4) times the design working load.

(ii) All scaffold casters shall be provided with a positive wheel and/or swivel lock to prevent movement. Ladder stands shall have at least two (2) of the four (4) casters and shall be of the swivel type.

(iii) Where leveling of the elevated work platform is required, screw jacks or other suitable means for adjusting the height shall be provided in the base section of each mobile unit.

* * * * *

(c) *Mobile tubular welded sectional folding scaffolds.*—(1) *General.* Units including sectional stairway and sectional ladder scaffolds shall be designed to comply with the requirements of paragraph (a) of this section.

(2) *Stairway.* An integral stairway and work platform shall be incorporated into the structure of each sectional folding stairway scaffold.

(3) *Bracing.* An integral set of pivoting and hinged folding diagonal and horizontal braces and a detachable work platform shall be incorporated into the structure of each sectional folding ladder scaffold.

(4) *Sectional folding stairway scaffolds.* Sectional folding stairway scaffolds shall be designed as medium duty scaffolds except for high clearance. These special base sections shall be designed as light duty scaffolds. When upper sectional folding stairway scaffolds are used with a special high clearance base, the load capacity of the entire scaffold shall be reduced accordingly. The width of a sectional folding stairway scaffold shall not exceed 4½ feet. The maximum length of a sectional folding stairway scaffold shall not exceed 6 feet.

(5) *Sectional folding ladder scaffolds.* Sectional folding ladder scaffolds shall be designed as light duty scaffolds including special base (open end) sections which are designed for high clearance. For certain special applications the six-foot (6′) folding ladder scaffolds, except for special high clearance base sections, shall be designed for use as medium duty scaffolds. The width of a sectional folding ladder scaffold shall not exceed 4½ feet. The maximum length of a sectional folding ladder scaffold shall not exceed 6 feet 6 inches for a six-foot (6′) long unit, 8 feet 6 inches for an eight-foot (8′) unit or 10 feet 6 inches for a ten-foot (10′) long unit.

(6) *End frames.* The end frames of sectional ladder and stairway scaffolds shall be designed so that the horizontal bearers provide supports for multiple planking levels.

(7) *Erection.* Only the manufacturer of the scaffold or his qualified designated agent shall be permitted to erect or supervise the erection of scaffolds exceeding 50 feet in height above the base, unless such structure is approved in writing by a licensed professional engineer, or erected in accordance with instructions furnished by the manufacturer.

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§ 1926.452 Definitions applicable to this subpart.

(a) *"Ladders"*—(1) "Cleats"—Ladder crosspieces of rectangular cross section placed on edge on which a person may step in ascending or descending.

(2) "Single cleat ladder"—One which consists of a pair of side rails, usually parallel, but with flared side rails permissible, connected together with cleats that are joined to the side rails at regular intervals.

(3) "Double cleat ladder"—One that is similar to a single cleat ladder, but is wider, with an additional center rail which will allow for two-way traffic for workmen in ascending and descending.

(b) *"Scaffolding"*—(1) "Bearer"—A horizontal member of a scaffold upon which the platform rests and which may be supported by ledgers.

(2) "Boatswain's chair"—A seat supported by slings attached to a suspended rope, designed to accommodate one workman in a sitting position.

(3) "Brace"—A tie that holds one scaffold member in a fixed position with respect to another member.

(4) "Bricklayers' square scaffold"—A scaffold composed of framed wood squares which support a platform, limited to light and medium duty.

(5) "Carpenters' bracket scaffold"—A scaffold consisting of wood or metal brackets supporting a platform.

(6) "Coupler"—A device for locking together the component parts of a tubular metal scaffold. (The material used for the couplers shall be of a structural type, such as a drop-forged steel, malleable iron, or structural grade aluminum.)

(7) "Crawling board or chicken ladder"—A plank with cleats spaced and secured at equal intervals, for use by a worker on roofs, not designed to carry any material.

(8) "Double pole or independent pole scaffold"—A scaffold supported from the base by a double row of uprights, independent of support from the walls and constructed of uprights, ledgers, horizontal platform bearers, and diagonal bracing.

(9) "Float or ship scaffold"—A scaffold hung from overhead supports by means of ropes and consisting of a substantial platform having diagonal bracing underneath, resting upon and securely fastened to two parallel plank bearers at right angles to the span.

(10) "Guardrail"—A rail secured to uprights and erected along the exposed sides and ends of platforms.

(11) "Heavy duty scaffold"—A scaffold designed and constructed to carry a working load not to exceed 75 pounds per square foot.

(12) "Horse scaffold"—A scaffold for light or medium duty, composed of horses supporting a work platform.

(13) "Interior hung scaffold"—A scaffold suspended from the ceiling or roof structure.

(14) "Ladder jack scaffold"—A light duty scaffold supported by brackets attached to ladders.

(15) "Ledgers (stringers)"—A horizontal scaffold member which extends from post to post and which supports the putlogs or bearers forming a tie between the posts.

(16) "Light duty scaffold"—A scaffold designed and constructed to carry a working load not to exceed 25 pounds per square foot.

(17) "Manually propelled mobile scaffold"—A portable rolling scaffold supported by casters.

(18) "Masons' adjustable multiple-point suspension scaffold"—A scaffold having a continuous platform supported by bearers suspended by wire rope from overhead supports, so arranged and operated as to permit the raising or lowering of the platform to desired working positions.

(19) "Maximum rated load"—The total of all loads including the working load, the weight of the scaffold, and such other loads as may be reasonably anticipated.

(20) "Medium duty scaffold"—A scaffold designed and constructed to carry a working load not to exceed 50 pounds per square foot.

(21) "Midrail"—A rail approximately midway between the guardrail and platform, secured to the uprights erected along the exposed sides and ends of platforms.

(22) "Needle beam scaffold"—A light duty scaffold consisting of needle beams supporting a platform.

(23) "Outrigger scaffold"—A scaffold supported by outriggers or thrustouts projecting beyond the wall or face of

the building or structure, the inboard ends of which are secured inside of such building or structure.

(24) "Putlog"—A scaffold member upon which the platform rests.

(25) "Roofing or bearer bracket"—A bracket used in slope roof construction, having provisions for fastening to the roof or supported by ropes fastened over the ridge and secured to some suitable object.

(26) "Runner"—The lengthwise horizontal bracing or bearing members or both.

(27) "Scaffold"—Any temporary elevated platform and its supporting structure used for supporting workmen or materials, or both.

(28) "Single-point adjustable suspension scaffold"—A manually or power-operated unit designed for light duty use, supported by a single wire rope from an overhead support so arranged and operated as to permit the raising or lowering of platform to desired working positions.

(29) "Single-pole scaffold"—Platforms resting on putlogs or cross beams, the outside ends of which are supported on ledgers secured to a single row of posts or uprights, and the inner ends of which are supported on or in a wall.

(30) "Stone setters' adjustable multiple-point suspension scaffold"—A swinging type scaffold having a platform supported by hangers suspended at four points so as to permit the raising or lowering of the platform to the desired working position by the use of hoisting machines.

(31) "Toeboard"—A barrier secured along the sides and ends of a platform to guard against the falling of material.

(32) "Tube and coupler scaffold"—An assembly consisting of tubing which serves as posts, bearers, braces, ties, and runners, a base supporting the posts, and special couplers which serve to connect the uprights and to join the various members.

(33) "Tubular welded frame scaffold"—A sectional panel or frame metal scaffold substantially built up of prefabricated welded sections which consists of posts and horizontal bearer with intermediate members.

(34) "Two-point suspension scaffold (swinging scaffold)"—A scaffold, the platform of which is supported by hangers (stirrups) at two points, suspended from overhead supports so as to permit the raising or lowering of the platform to the desired working position by tackle or hoisting machines.

(35) "Window jack scaffold"—A scaffold, the platform of which is supported by a bracket or jack which projects through a window opening.

(36) "Working load"—Load imposed by men, materials, and equipment.

Subpart M—Floor and Wall Openings, and Stairways [1]

Sec.
1926.500 Guardrails, handrails, and covers.
1910.23 Guarding floor and wall openings and holes.
1910.21 Definitions.
1926.501 Stairways.
1926.502 Definitions applicable to this subpart.

§ 1926.500 Guardrails, handrails, and covers.

(a) *General provision.* This subpart shall apply to temporary or emergency conditions where there is danger of employees or materials falling through floor, roof, or wall openings, or from stairways or runways.

(b) *Guarding of floor openings and floor holes.* (1) Floor openings shall be guarded by a standard railing and toeboards or cover, as specified in paragraph (f) of this section. In general, the railing shall be provided on all exposed sides, except at entrances to stairways.

(2) Ladderway floor openings or platforms shall be guarded by standard railings with standard toeboards on all exposed sides, except at entrance to opening, with the passage through the railing either provided with a swinging gate or so offset that a person cannot walk directly into the opening.

(3) Hatchways and chute floor openings shall be guarded by one of the following:

(i) Hinged covers of standard strength and construction and a standard railing with only one exposed side. When the opening is not in use, the cover shall be closed or the exposed side shall be guarded at both top and intermediate positions by removable standard railings;

(ii) A removable standard railing with toe board on not more than two sides of the opening and fixed standard railings with toeboards on all other exposed sides. The removable railing shall be kept in place when the opening is not in use and should preferably be hinged or otherwise mounted so as to be conveniently replaceable.

(4) Wherever there is danger of falling through a skylight opening, it shall be guarded by a fixed standard railing on all exposed sides or a cover capable of sustaining the weight of a 200-pound person.

(5) Pits and trap-door floor openings shall be guarded by floor opening covers of standard strength and construction. While the cover is not in place, the pit or trap openings shall be protected on all exposed sides by removable standard railings.

(6) Manhole floor openings shall be guarded by standard covers which need not be hinged in place. While the cover is not in place, the manhole opening shall be protected by standard railings.

(7) Temporary floor openings shall have standard railings.

(8) Floor holes, into which persons can accidentally walk, shall be guarded by either a standard railing with standard toeboard on all exposed sides, or a floor hole cover of standard strength and construction that is secured against accidental displacement. While the cover is not in place, the floor hole shall be protected by a standard railing.

(9) Where doors or gates open directly on a stairway, a platform shall be provided, and the swing of the door shall not reduce the effective width of the platform to less than 20 inches.

(c) *Guarding of wall openings.* (1) Wall openings, from which there is a drop of more than 4 feet, and the bottom of the opening is less than 3 feet above the working surface, shall be guarded as follows:

(i) When the height and placement of the opening in relation to the working surface is such that either a standard rail or intermediate rail will effectively reduce the danger of falling, one or both shall be provided;

(ii) The bottom of a wall opening, which is less than 4 inches above the working surface, regardless of width, shall be protected by a standard toeboard or an enclosing screen either of solid construction or as specified in paragraph (f)(7)(ii) of this section.

(2) An extension platform outside a wall opening onto which materials can be hoisted for handling shall have side rails or equivalent guards of standard specifications. One side of an extension platform may have removable railings in order to facilitate handling materials.

(3) When a chute is attached to an opening, the provisions of paragraph (c)(1) of this section shall apply, except that a toeboard is not required.

(d) *Guarding of open-sided floors, platforms, and runways.* (1) Every open-sided floor or platform 6 feet or more above adjacent floor or ground level shall be guarded by a standard railing, or the equivalent, as specified in paragraph (f)(1) of this section, on all open sides, except where there is entrance to a ramp, stairway, or fixed ladder. The railing shall be provided with a standard toeboard wherever, beneath the open sides, persons can pass, or there is moving machinery, or there is equipment with which falling materials could create a hazard.

(2) Runways shall be guarded by a standard railing, or the equivalent, as specified in paragraph (f) of this section, on all open sides, 4 feet or more

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[1] Portions of the listed Part 1910 standards have been identified as applicable to construction.

above floor or ground level. Wherever tools, machine parts, or materials are likely to be used on the runway, a toeboard shall also be provided on each exposed side.

(3) Runways used exclusively for special purposes may have the railing on one side omitted where operating conditions necessitate such omission, providing the falling hazard is minimized by using a runway not less than 18 inches wide.

(4) Where employees entering upon runways become thereby exposed to machinery, electrical equipment, or other danger not a falling hazard, additional guarding shall be provided.

(5) Regardless of height, open-sided floors, walkways, platforms, or runways above or adjacent to dangerous equipment, pickling or galvanizing tanks, degreasing units, and similar hazards shall be guarded with a standard railing and toeboard.

(e) *Stairway railings and guards.* (1) Every flight of stairs having four or more risers shall be equipped with standard stair railings or standard handrails as specified below, the width of the stair to be measured clear of all obstructions except handrails:

(i) On stairways less than 44 inches wide having both sides enclosed, at least one handrail, preferably on the right side descending;

(ii) On stairways less than 44 inches wide having one side open, at least one stair railing on the open side;

(iii) On stairways less than 44 inches wide having both sides open, one stair railing on each side;

(iv) On stairways more than 44 inches wide but less than 88 inches wide, one handrail on each enclosed side and one stair railing on each open side;

(v) On stairways 88 or more inches wide, one handrail on each enclosed side, one stair railing on each open side, and one intermediate stair railing located approximately midway of the width.

(2) Winding stairs shall be equipped with a handrail offset to prevent walking on all portions of the treads having width less than 6 inches.

(f) *Standard specifications.* (1) A standard railing shall consist of top rail, intermediate rail, toeboard, and posts, and shall have a vertical height of approximately 42 inches from upper surface of top rail to floor, platform, runway, or ramp level. The top rail shall be smooth-surfaced throughout the length of the railing. The intermediate rail shall be halfway between the top rail and the floor, platform, runway, or ramp. The ends of the rails shall not overhang the terminal posts except where such overhang does not constitute a projection hazard. Minimum requirements for standard railings under various types of construction are specified in the following paragraphs:

(i) For wood railings, the posts shall be of at least 2-inch by 4-inch stock spaced not to exceed 8 feet; the toprail shall be of at least 2-inch by 4-inch stock; the intermediate rail shall be of at least 1-inch by 6-inch stock.

(ii) For pipe railings, posts and top and intermediate railings shall be at least 1½ inches nominal diameter with posts spaced not more than 8 feet on centers.

(iii) For structural steel railings, posts and top and intermediate rails shall be of 2-inch by 2-inch by ⅜-inch angles or other metal shapes of equivalent bending strength, with posts spaced not more than 8 feet on centers.

(iv) The anchoring of posts and framing of members for railings of all types shall be of such construction that the completed structure shall be capable of withstanding a load of at least 200 pounds applied in any direction at any point on the top rail, with a minimum of deflection.

(v) Railings receiving heavy stresses from employees trucking or handling materials shall be provided additional strength by the use of heavier stock, closer spacing of posts, bracing, or by other means.

(vi) Other types, sizes, and arrangements of railing construction are acceptable, provided they meet the following conditions:

(*a*) A smooth-surfaced top rail at a height above floor, platform, runway, or ramp level of approximately 42 inches;

(*b*) A strength to withstand at least the minimum requirement of 200 pounds top rail pressure with a minimum of deflection;

(*c*) Protection between top rail and floor, platform, runway, ramp, or stair treads, equivalent at least to that afforded by a standard intermediate rail;

(*d*) Elimination of overhang of rail ends unless such overhang does not constitute a hazard.

(2) A stair railing shall be of construction similar to a standard railing, but the vertical height shall be not more than 34 inches nor less than 30 inches from upper surface of top rail to surface of tread in line with face of riser at forward edge of tread.

(3) (i) A standard toeboard shall be 4 inches minimum in vertical height from its top edge to the level of the floor, platform, runway, or ramp. It shall be securely fastened in place and have not more than ¼-inch clearance above floor level. It may be made of any substantial material, either solid, or with openings not over 1 inch in greatest dimension.

(ii) Where material is piled to such height that a standard toeboard does not provide protection, paneling or screening from floor to intermediate rail or to top rail shall be provided.

(4) (i) A standard handrail shall be of construction similar to a standard railing except that it is mounted on a wall or partition, and does not include an intermediate rail. It shall have a smooth surface along the top and both sides of the handrail. The handrail shall have an adequate handhold for any one grasping it to avoid falling. Ends of the handrail shall be constructed so as not to constitute a projection hazard.

(ii) The height of handrails shall be not more than 34 inches nor less than 30 inches from upper surface of handrail to surface of tread, in line with face of riser or to surface of ramp.

(iii) All handrails and railings shall be provided with a clearance of approximately 3 inches between the handrail or railing and any other object.

(5) Floor opening covers shall be of any material that meets the following strength requirements:

(i) Conduits, trenches, and manhole covers and their supports, when located in roadways, and vehicular aisles, shall be designed to carry a truck rear-axle load of at least 2 times the maximum intended load;

(ii) The floor opening cover shall be capable of supporting the maximum intended load and so installed as to prevent accidental displacement.

(6) Skylight openings that create a falling hazard shall be guarded with a standard railing, or covered in accordance with paragraph (5)(ii) of this paragraph.

(7) Wall opening protection shall meet the following requirements:

(i) Barriers shall be of such construction and mounting that, when in place at the opening, the barrier is capable of withstanding a load of at least 200 pounds applied in any direction (except upward), with a minimum of deflection at any point on the top rail or corresponding member.

(ii) Screens shall be of such construction and mounting that they are capable of withstanding a load of at least 200 pounds applied horizontally at any point on the near side of the screen. They may be of solid construction, of grill work with openings not more than 8 inches long, or of slat work with openings not more than 4 inches wide with length unrestricted.

> The following requirement from 29 CFR Part 1910 (General Industry) has been identified as applicable to construction (29 CFR 1926.500 *Guardrails, Handrails, and Covers*), *in accordance with the definition noted below.;*

§ 1910.23 Guarding floor and wall openings and holes.

* * * * *

(b) * * *

(5) Where there is a hazard of materials falling through a wall hole, and the lower edge of the near side of the hole is than 4 inches above the floor, and the far side of the hole more than 5 feet above the next lower level, the hole shall be protected by a standard toeboard, or an enclosing screen either of solid construction, or as specified in paragraph (e)(11) of this section.

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§ 1910.21 Definitions.

(a) * * *

(10) *Wall hole.* An opening less than 30 inches but more than 1 inch high, of unrestricted width, in any wall or partition; such as a ventilation hole or drainage scupper.

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§ 1926.501 Stairways.

(a) On all structures, two or more floors (20 feet or over) in height, stairways, ladders, or ramps shall be provided for employees during the construction period.

(b) Stairway railings and guardrails shall meet the requirements of § 1926.500 (e) and (f).

(c) All parts of stairways shall be free of hazardous projections, such as protruding nails.

(d) Debris, and other loose materials, shall not be allowed on or under stairways.

(e) Slippery conditions on stairways shall be eliminated as soon as possible after they occur.

(f) Permanent steel or other metal stairways, and landings with hollow pan-type treads that are to be filled with concrete or other materials, when used during construction, shall be filled to the level of the nosing with solid material. The requirement shall not apply during the period of actual construction of the stairways themselves.

(g) Wooden treads for temporary service shall be full width.

(h) Metal landings shall be secured in place before filling.

(i) Temporary stairs shall have a landing not less than 30 inches in the direction of travel at every 12 feet of vertical rise.

(j) Stairs shall be installed at angles to the horizontal of between 30° and 50°.

(k) Rise height and tread width shall be uniform throughout any flight of stairs including any foundation structure used as one or more treads of the stairs.

(l) All stairs shall be lighted in accordance with Subpart D of this part.

(m) Spiral stairways shall not be permitted except for special limited usage and secondary access situations where it is not practical to provide a conventional stairway.

§ 1926.502 Definitions applicable to this subpart.

(a) "Floor hole"—An opening measuring less than 12 inches but more than 1 inch in its least dimension in any floor, roof, or platform through which materials but not persons may fall, such as a belt hold, pipe opening, or slot opening.

(b) "Floor opening"—An opening measuring 12 inches or more in its least dimension in any floor, roof, or platform through which persons may fall.

(c) "Handrail"—A bar or pipe supported on brackets from a wall or partition, as on a stairway or ramp, to furnish persons with a handhold in case of tripping.

(d) "Nose, nosing"—That portion of a tread projecting beyond the face of the riser immediately below.

(e) "Platform"—A working space for persons, elevated above the surrounding floor or ground, such as a balcony or platform for the operation of machinery and equipment.

(f) "Runway"—A passageway for persons, elevated above the surrounding floor or ground level, such as a footwalk along shafting or a walkway between buildings.

(g) "Rise"—The vertical distance from the top of a tread to the top of the next higher tread.

(h) "Stair platform"—An extended step or landing breaking a continuous run of stairs.

(i) "Stair railing"—A vertical barrier erected along exposed sides of a stairway to prevent falls of persons.

(j) "Stairs, stairways"—A series of steps leading from one level or floor to another, or leading to platforms, pits, boiler rooms, crossovers, or around machinery, tanks, and other equipment that are used more or less continuously or routinely by employees or only occasionally by specific individuals. For the purpose of this subpart, a series of steps and landings having three or more rises constitutes stairs or stairway.

(k) "Standard railing"—A vertical barrier erected along exposed edges of a floor opening, wall opening, ramp, platform, or runway to prevent falls of persons.

(l) "Standard strength and construction"—Any construction of railings, covers, or other guards that meets the requirements of this subpart.

(m) "Toeboard"—A vertical barrier at floor level erected along exposed edges of a floor opening, wall opening, platform, runway, or ramp to prevent falls of materials.

(n) "Tread width"—The horizontal distance from front to back of tread, including nosing, when used.

(o) "Wall opening"—An opening at least 30 inches high and 18 inches wide, in any wall or partition, through which persons may fall, such as a yard-arm doorway or chute opening.

Subpart N—Cranes, Derricks, Hoists, Elevators, and Conveyors

Sec.

1926.550 Cranes and derricks.
1926.551 Helicopters.
1926.552 Material hoists and personel hoists and elevators.
1926.553 Base-mounted drum hoists.
1926.554 Overhead hoists.
1926.555 Conveyors.
1926.556 Aerial lifts.

§ 1926.550 Cranes and derricks.

(a) *General requirements.* (1) The employer shall comply with the manufacturer's specifications and limitations applicable to the operation of any and all cranes and derricks. Where manufacturer's specifications are not available, the limitations assigned to the equipment shall be based on the determinations of a qualified engineer competent in this field and such determinations will be appropriately documented and recorded. Attachments used with cranes shall not exceed the capacity, rating, or scope recommended by the manufacturer.

(2) Rated load capacities, and recommended operating speeds, special hazard warnings, or instruction, shall be conspicuously posted on all equipment. Instructions or warnings shall be visible to the operator while he is at his control station.

(3) [Revoked]

(4) Hand signals to crane and derrick operators shall be those prescribed by the applicable ANSI standard for the type of crane in use. An illustration of the signals shall be posted at the job site.

(5) The employer shall designate a competent person who shall inspect all machinery and equipment prior to each use, and during use, to make sure it is in safe operating condition. Any deficiencies shall be repaired, or defective parts replaced, before continued use.

(6) A thorough, annual inspection of the hoisting machinery shall be made by a competent person, or by a government or private agency recognized by the U.S. Department of Labor. The employer shall maintain a record of the dates and results of inspections for each hoisting machine and piece of equipment.

(7) Wire rope shall be taken out of service when any of the following conditions exist:

(i) In running ropes, six randomly distributed broken wires in one lay or three broken wires in one strand in one lay;

(ii) Wear of one-third the original diameter of outside individual wires. Kinking, crushing, bird caging, or any other damage resulting in distortion of the rope structure;

(iii) Evidence of any heat damage from any cause;

(iv) Reductions from nominal diameter of more than one-sixty-fourth inch for diameters up to and including five-sixteenths inch, one-thirty-second inch for diameters three-eighths inch to and including one-half inch, three-sixty-fourths inch for diameters nine-sixteenths inch to and including three-fourths inch, one-sixteenth inch for diameters seven-eighths inch to 1⅛ inches inclusive, three-thirty-seconds inch for diameters 1¼ to 1½ inches inclusive;

(v) In standing ropes, more than two broken wires in one lay in sections beyond end connections or more than one broken wire at an end connection.

(vi) Wire rope safety factors shall be in accordance with American National Standards Institute B30.5-1968 or SAE J959-1966.

(8) Belts, gears, shafts, pulleys, sprockets, spindles, drums, fly wheels, chains, or other reciprocating, rotating, or other moving parts or equipment shall be guarded if such parts are exposed to contact by employees, or otherwise create a hazard. Guarding shall meet the requirements of the American National Standards Institute B15.1-1958 Rev., Safety Code for Mechanical Power Transmission Apparatus.

(9) Accessible areas within the swing radius of the rear of the rotating superstructure of the crane, either permanently or temporarily mounted, shall be barricaded in such a manner as to prevent an employee from being struck or crushed by the crane.

(10) All exhaust pipes shall be guarded or insulated in areas where contact by employees is possible in the performance of normal duties.

(11) Whenever internal combustion engine powered equipment exhausts in enclosed spaces, tests shall be made and recorded to see that employees are not exposed to unsafe concentrations of toxic gases or oxygen deficient atmospheres.

(12) All windows in cabs shall be of safety glass, or equivalent, that introduces no visible distortion that will interfere with the safe operation of the machine.

(13) (i) Where necessary for rigging or service requirements, a ladder, or steps, shall be provided to give access to a cab roof.

(ii) Guardrails, handholds, and steps shall be provided on cranes for easy access to the car and cab, conforming to American National Standards Institute B30.5.

(iii) Platforms and walkways shall have anti-skid surfaces.

(14) Fuel tank filler pipe shall be located in such a position, or protected in such manner, as to not allow spill or overflow to run onto the engine, exhaust, or electrical equipment of any machine being fueled.

(i) An accessible fire extinguisher of 5BC rating, or higher, shall be available at all operator stations or cabs of equipment.

(ii) All fuels shall be transported, stored, and handled to meet the rules of Subpart F of this part. When fuel is transported by vehicles on public highways, Department of Transportation rules contained in 49 CFR Parts 177 and 393 concerning such vehicular transportation are considered applicable.

(15) Except where electrical distribution and transmission lines have been deenergized and visibly grounded at point of work or where insulating barriers, not a part of or an attachment to the equipment or machinery, have been erected to prevent physical contact with the lines, equipment or machines shall be operated proximate to power lines only in accordance with the following:

(i) For lines rated 50 kV. or below, minimum clearance between the lines and any part of the crane or load shall be 10 feet;

(ii) For lines rated over 50 kV., minimum clearance between the lines and any part of the crane or load shall be 10 feet plus 0.4 inch for each 1 kV. over 50 kV., or twice the length of the line insulator, but never less than 10 feet;

(iii) In transit with no load and boom lowered, the equipment clearance shall be a minimum of 4 feet for voltages less than 50 kV., and 10 feet for voltages over 50 kV., up to and including 345 kV., and 16 feet for voltages up to and including 750 kV.

(iv) A person shall be designated to observe clearance of the equipment and give timely warning for all operations where it is difficult for the operator to maintain the desired clearance by visual means;

(v) Cage-type boom guards, insulating links, or proximity warning devices may be used on cranes, but the use of such devices shall not alter the requirements of any other regulation of this part even if such device is required by law or regulation;

(vi) Any overhead wire shall be considered to be an energized line unless and until the person owning such line or the electrical utility authorities indicate that it is not an energized line and it has been visibly grounded;

(vii) Prior to work near transmitter towers where an electrical charge can be induced in the equipment or materials being handled, the transmitter shall be de-energized or tests shall be made to determine if electrical charge is induced on the crane. The following precautions shall be taken when necessary to dissipate induced voltages:

(*a*) The equipment shall be provided with an electrical ground directly to the upper rotating structure supporting the boom; and

(*b*) Ground jumper cables shall be attached to materials being handled by boom equipment when electrical charge is induced while working near energized transmitters. Crews shall be provided with nonconductive poles having large alligator clips or other similar protection to attach the ground cable to the load.

(*c*) Combustible and flammable materials shall be removed from the immediate area prior to operations.

(16) No modifications or additions which affect the capacity or safe operation of the equipment shall be made by the employer without the manufacturer's written approval. If such modifications or changes are made, the capacity, operation, and maintenance instruction plates, tags, or decals, shall be changed accordingly. In no case shall the original safety factor of the equipment be reduced.

(17) The employer shall comply with Power Crane and Shovel Association Mobile Hydraulic Crane Standard No. 2.

(18) Sideboom cranes mounted on wheel or crawler tractors shall meet the requirements of SAE J743a-1964.

(b) *Crawler, locomotive, and truck cranes.* (1) All jibs shall have positive stops to prevent their movement of more than 5° above the straight line of the jib and boom on conventional type crane booms. The use of cable type belly slings does not constitute compliance with this rule.

(2) All crawler, truck, or locomotive cranes in use shall meet the applicable requirements for design, inspection, construction, testing, maintenance and operation as prescribed in the ANSI B30.5-1968, Safety Code for Crawler, Locomotive and Truck Cranes.

(c) *Hammerhead tower cranes.* (1) Adequate clearance shall be maintained between moving and rotating structures of the crane and fixed objects to allow the passage of employees without harm.

(2) Employees required to perform duties on the horizontal boom of hammerhead tower cranes shall be protected against falling by guardrails or by safety belts and lanyards attached to lifelines in conformance with Subpart E of this part.

(3) Buffers shall be provided at both ends of travel of the trolley.

(4) Cranes mounted on rail tracks shall be equipped with limit switches

[4510-26-M]

limiting the travel of the crane on the track and stops or buffers at each end of the tracks.

(5) All hammerhead tower cranes in use shall meet the applicable requirements for design, construction, installation, testing, maintenance, inspection, and operation as prescribed by the manufacturer.

(d) *Overhead and gantry cranes.* (1) The rated load of the crane shall be plainly marked on each side of the crane, and if the crane has more than one hoisting unit, each hoist shall have its rated load marked on it or its load block, and this marking shall be clearly legible from the ground or floor.

(2) Bridge trucks shall be equipped with sweeps which extend below the top of the rail and project in front of the truck wheels.

(3) Except for floor-operated cranes, a gong or other effective audible warning signal shall be provided for each crane equipped with a power traveling mechanism.

(4) All overhead and gantry cranes in use shall meet the applicable requirements for design, construction, installation, testing, maintenance, inspection, and operation as prescribed in the ANSI B30.2.0-1967, Safety Code for Overhead and Gantry Cranes.

(e) *Derricks.* All derricks in use shall meet the applicable requirements for design, construction, installation, inspection, testing, maintenance, and operation as prescribed in American National Standards Institute B30.6-1969, Safety Code for Derricks.

(f) *Floating cranes and derricks*—(1) *Mobile cranes mounted on barges.* (i) When a mobile crane is mounted on a barge, the rated load of the crane shall not exceed the original capacity specified by the manufacturer.

(ii) A load rating chart, with clearly legible letters and figures, shall be provided with each crane, and securely fixed at a location easily visible to the operator.

(iii) When load ratings are reduced to stay within the limits for list of the barge with a crane mounted on it, a new load rating chart shall be provided.

(iv) Mobile cranes on barges shall be positively secured.

(2) *Permanently mounted floating cranes and derricks.* (i) When cranes and derricks are permanently installed on a barge, the capacity and limitations of use shall be based on competent design criteria.

(ii) A load rating chart with clearly legible letters and figures shall be provided and securely fixed at a location easily visible to the operator.

(iii) Floating cranes and floating derricks in use shall meet the applicable requirements for design, construction, installation, testing, maintenance, and operation as prescribed by the manufacturer.

(3) *Protection of employees working on barges.* The employer shall comply with the applicable requirements for protection of employees working onboard marine vessels specified in § 1926.605.

§ 1926.551 Helicopters.

(a) *Helicopter regulations.* Helicopter cranes shall be expected to comply with any applicable regulations of the Federal Aviation Administration.

(b) *Briefing.* Prior to each day's operation a briefing shall be conducted. This briefing shall set forth the plan of operation for the pilot and ground personnel.

(c) *Slings and tag lines.* Load shall be properly slung. Tag lines shall be of a length that will not permit their being drawn up into rotors. Pressed sleeve, swedged eyes, or equivalent means shall be used for all freely suspended loads to prevent hand splices from spinning open or cable clamps from loosening.

(d) *Cargo hooks.* All electrically operated cargo hooks shall have the electrical activating device so designed and installed as to prevent inadvertent operation. In addition, these cargo hooks shall be equipped with an emergency mechanical control for releasing the load. The hooks shall be tested prior to each day's operation to determine that the release functions properly, both electrically and mechanically.

(e) *Personal protective equipment.* (1) Personal protective equipment for employees receiving the load shall consist of complete eye protection and hard hats secured by chinstraps.

(2) Loose-fitting clothing likely to flap in the downwash, and thus be snagged on hoist line, shall not be worn.

(f) *Loose gear and objects.* Every practical precaution shall be taken to provide for the protection of the employees from flying objects in the rotor downwash. All loose gear within 100 feet of the place of lifting the load, depositing the load, and all other areas susceptible to rotor downwash shall be secured or removed.

(g) *Housekeeping.* Good housekeeping shall be maintained in all helicopter loading and unloading areas.

(h) *Operator responsibility.* The helicopter operator shall be responsible for size, weight, and manner in which loads are connected to the helicopter. If, for any reason, the helicopter operator believes the lift cannot be made safely, the lift shall not be made.

(i) *Hooking and unhooking loads.* When employees are required to perform work under hovering craft, a safe means of access shall be provided for employees to reach the hoist line hook and engage or disengage cargo slings. Employees shall not perform work under hovering craft except when necessary to hook or unhook loads.

(j) *Static charge.* Static charge on the suspended load shall be dissipated with a grounding device before ground personnel touch the suspended load, or protective rubber gloves shall be worn by all ground personnel touching the suspended load.

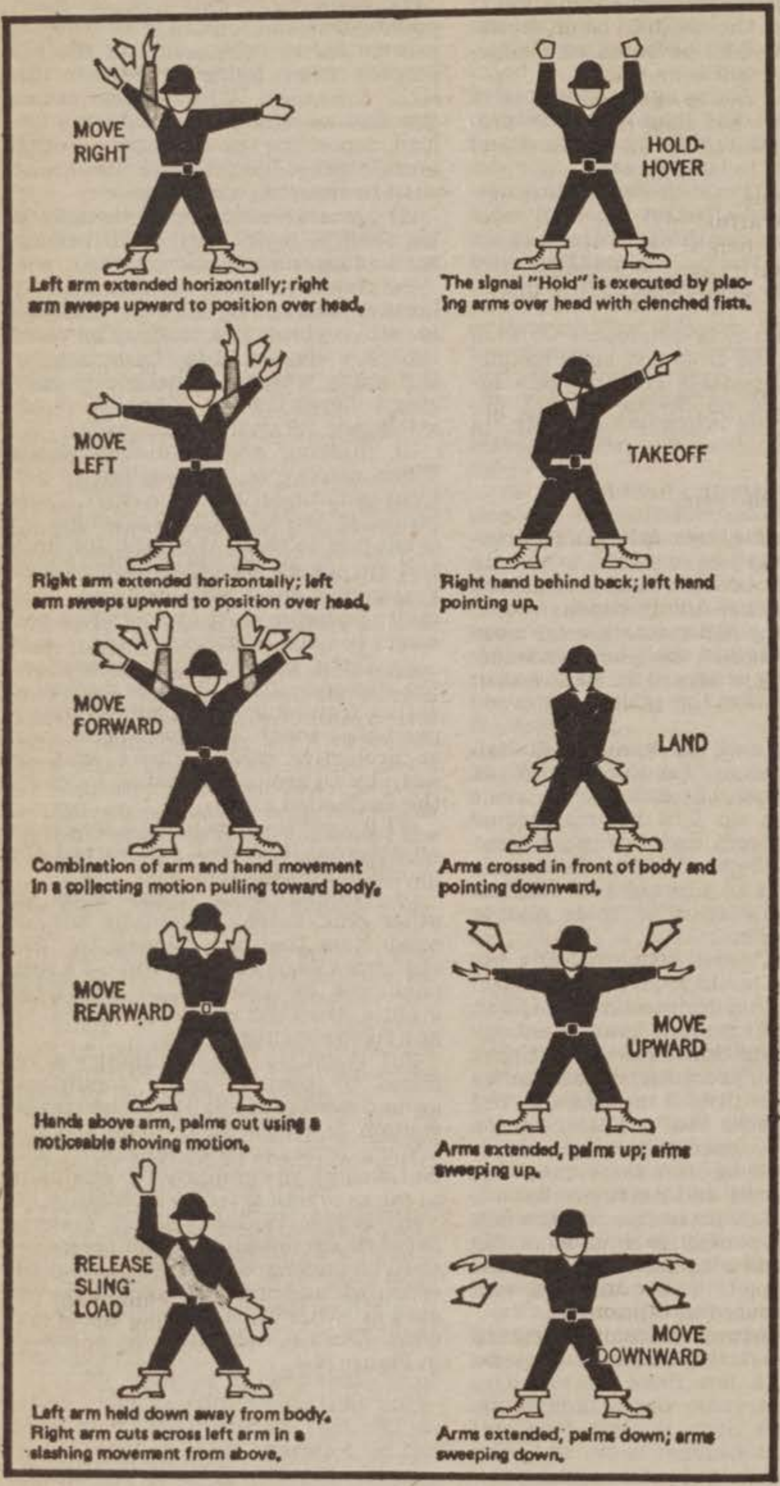
(k) *Weight limitation.* The weight of an external load shall not exceed the manufacturer's rating.

(l) *Ground lines.* Hoist wires or other gear, except for pulling lines or conductors that are allowed to "pay out" from a container or roll off a reel, shall not be attached to any fixed ground structure, or allowed to foul on any fixed structure.

(m) *Visibility.* When visibility is reduced by dust or other conditions, ground personnel shall exercise special caution to keep clear of main and stabilizing rotors. Precautions shall also be taken by the employer to eliminate as far as practical reduced visibility.

(n) *Signal systems.* Signal systems between aircrew and ground personnel shall be understood and checked in advance of hoisting the load. This applies to either radio or hand signal systems. Hand signals shall be as shown in Figure N-1.

[4510-26-C]



Left arm extended horizontally; right arm sweeps upward to position over head.

The signal "Hold" is executed by placing arms over head with clenched fists.

Right arm extended horizontally; left arm sweeps upward to position over head.

Right hand behind back; left hand pointing up.

Combination of arm and hand movement in a collecting motion pulling toward body.

Arms crossed in front of body and pointing downward.

Hands above arm, palms out using a noticeable shoving motion.

Arms extended, palms up; arms sweeping up.

Left arm held down away from body. Right arm cuts across left arm in a slashing movement from above.

Arms extended, palms down; arms sweeping down.

FIGURE N-1 HELICOPTER HAND SIGNAL

(o) *Approach distance.* No unauthorized person shall be allowed to approach within 50 feet of the helicopter when the rotor blades are turning.

(p) *Approaching helicopter.* Whenever approaching or leaving a helicopter with blades rotating, all employees shall remain in full view of the pilot and keep in a crouched position. Employees shall avoid the area from the cockpit or cabin rearward unless authorized by the helicopter operator to work there.

(q) *Personnel.* Sufficient ground personnel shall be provided when required for safe helicopter loading and unloading operations.

(r) *Communications.* There shall be constant reliable communication between the pilot, and a designated employee of the ground crew who acts as a signalman during the period of loading and unloading. This signalman shall be distinctly recognizable from other ground personnel.

(s) *Fires.* Open fires shall not be permitted in an area that could result in such fires being spread by the rotor downwash.

§ 1926.552 Material hoists, personnel hoists, and elevators.

(a) *General requirements.* (1) The employer shall comply with the manufacturer's specifications and limitations applicable to the operation of all hoists and elevators. Where manufacturer's specifications are not available, the limitations assigned to the equipment shall be based on the determinations of a professional engineer competent in the field.

(2) Rated load capacities, recommended operating speeds, and special hazard warnings or instructions shall be posted on cars and platforms.

(3) Wire rope shall be removed from service when any of the following conditions exists:

(i) In hoisting ropes, six randomly distributed broken wires in one rope lay or three broken wires in one strand in one rope lay;

(ii) Abrasion, scrubbing, flattening, or peening, causing loss of more than one-third of the original diameter of the outside wires;

(iii) Evidence of any heat damage resulting from a torch or any damage caused by contact with electrical wires;

(iv) Reduction from nominal diameter of more than three sixty-fourths inch for diameters up to and including three-fourths inch; one-sixteenth inch for diameters seven-eights to 1⅛ inches; and three thirty-seconds inch for diameters 1¼ to 1½ inches.

(4) Hoisting ropes shall be installed in accordance with the wire rope manufacturers' recommendations.

(5) The installation of live booms on hoists is prohibited.

(6) The use of endless belt-type manlifts on construction shall be prohibited.

(b) *Material hoists.* (1)(i) Operating rules shall be established and posted at the operator's station of the hoist. Such rules shall include signal system and allowable line speed for various loads. Rules and notices shall be posted on the car frame or crosshead in a conspicuous location, including the statement "No Riders Allowed."

(ii) No person shall be allowed to ride on material hoists except for the purposes of inspection and maintenance.

(2) All entrances of the hoistways shall be protected by substantial gates or bars which shall guard the full width of the landing entrance. All hoistway entrance bars and gates shall be painted with diagonal contrasting colors, such as black and yellow stripes.

(i) Bars shall be not less than 2- by 4-inch wooden bars or the equivalent, located 2 feet from the hoistway line. Bars shall be located not less than 36 inches nor more than 42 inches above the floor.

(ii) Gates or bars protecting the entrances to hoistways shall be equipped with a latching device.

(3) Overhead protective covering of 2-inch planking, ¾-inch plywood, or other solid material of equivalent strength, shall be provided on the top of every material hoist cage or platform.

(4) The operator's station of a hoisting machine shall be provided with overhead protection equivalent to tight planking not less than 2 inches thick. The support for the overhead protection shall be of equal strength.

(5) Hoist towers may be used with or without an enclosure on all sides. However, whichever alternative is chosen, the following applicable conditions shall be met:

(i) When a hoist tower is enclosed, it shall be enclosed on all sides for its entire height with a screen enclosure of ½-inch mesh, No. 18 U.S. gauge wire or equivalent, except for landing access.

(ii) When a hoist tower is not enclosed, the hoist platform or car shall be totally enclosed (caged) on all sides for the full height between the floor and the overhead protective covering with ½-inch mesh of No. 14 U.S. gauge wire or equivalent. The hoist platform enclosure shall include the required gates for loading and unloading. A 6-foot high enclosure shall be provided on the unused sides of the hoist tower at ground level.

(6) Car arresting devices shall be installed to function in case of rope failure.

(7) All material hoist towers shall be designed by a licensed professional engineer.

(8) All material hoists shall conform to the requirements of ANSI A10.5-1969, Safety Requirements for Material Hoists.

(c) *Personnel hoists.* (1) Hoist towers outside the structure shall be enclosed for the full height on the side or sides used for entrance and exit to the structure. At the lowest landing, the enclosure on the sides not used for exit or entrance to the structure shall be enclosed to a height of at least 10 feet. Other sides of the tower adjacent to floors or scaffold platforms shall be enclosed to a height of 10 feet above the level of such floors or scaffolds.

(2) Towers inside of structures shall be enclosed on all four sides throughout the full height.

(3) Towers shall be anchored to the structure at intervals not exceeding 25 feet. In addition to tie-ins, a series of guys shall be installed. Where tie-ins are not practical the tower shall be anchored by means of guys made of wire rope at least one-half inch in diameter, securely fastened to anchorage to ensure stability.

(4) Hoistway doors or gates shall be not less than 6 feet 6 inches high and shall be provided with mechanical locks which cannot be operated from the landing side, and shall be accessible only to persons on the car.

(5) Cars shall be permanently enclosed on all sides and the top, except sides used for entrance and exit which have car gates or doors.

(6) A door or gate shall be provided at each entrance to the car which shall protect the full width and height of the car entrance opening.

(7) Overhead protective covering of 2-inch planking, ¾-inch plywood or other solid material or equivalent strength shall be provided on the top of every personnel hoist.

(8) Doors or gates shall be provided with electric contacts which do not allow movement of the hoist when door or gate is open.

(9) Safeties shall be capable of stopping and holding the car and rated load when traveling at governor tripping speed.

(10) Cars shall be provided with a capacity and data plate secured in a conspicuous place on the car or crosshead.

(11) Internal combustion engines shall not be permitted for direct drive.

(12) Normal and final terminal stopping devices shall be provided.

(13) An emergency stop switch shall be provided in the car and marked "Stop."

(14) Ropes: (i) The minimum number of hoisting ropes used shall be three for traction hoists and two for drum-type hoists.

(ii) The minimum diameter of hoisting and counterweight wire ropes shall be ½-inch.

(iii) Safety factors:

MINIMUM FACTORS OF SAFETY FOR SUSPENSION WIRE ROPES

Rope speed in feet per minute:	*Minimum factor of safety*
50	7.60
75	7.75
100	7.95
125	8.10
150	8.25
175	8.40
200	8.60
225	8.75
250	8.90
300	9.20
350	9.50
400	9.75
450	10.00
500	10.25
550	10.45
600	10.70

(15) Following assembly and erection of hoists, and before being put in service, an inspection and test of all functions and safety devices shall be made under the supervision of a competent person. A similar inspection and test is required following major alteration of an existing installation. All hoists shall be inspected and tested at not more than 3-month intervals. Records shall be maintained and kept on file for the duration of the job.

(16) All personnel hoists used by employees shall be constructed of materials and components which meet the specifications for materials, construction, safety devices, assembly, and structural integrity as stated in the American National Standard A10.4-1963, Safety Requirements for Workmen's Hoists. The requirements of this subparagraph (16) do not apply to cantilever type personnel hoists.

(17) (i) Personnel hoists used in bridge tower construction shall be approved by a registered professional engineer and erected under the supervision of a qualified engineer competent in this field.

(ii) When a hoist tower is not enclosed, the hoist platform or car shall be totally enclosed (caged) on all sides for the full height between the floor and the overhead protective covering with ¾-inch mesh of No. 14 U.S. gauge wire or equivalent. The hoist platform enclosure shall include the required gates for loading and unloading.

(iii) These hoists shall be inspected and maintained on a weekly basis. Whenever the hoisting equipment is exposed to winds exceeding 35 miles per hour it shall be inspected and put in operable condition before reuse.

(iv) Wire rope shall be taken out of service when any of the following conditions exist:

(*a*) In running ropes, six randomly distributed broken wires in one lay or three broken wires in one strand in one lay;

(*b*) Wear of one-third the original diameter of outside individual wires. Kinking, crushing, bird caging, or any other damage resulting in distortion of the rope structure;

(c) Evidence of any heat damage from any cause;

(d) Reductions from nominal diameter of more than three-sixty-fourths inch for diameters to and including three-fourths inch, one-sixteenth inch for diameters seven-eights inch to 1⅛ inches inclusive, three-thirty-seconds inch for diameters 1¼ to 1½ inches inclusive;

(e) In standing ropes, more than two broken wires in one lay in sections beyond end connections or more than one broken wire at an end connection.

(d) Permanent elevators under the care and custody of the employer and used by employees for work covered by this Act shall comply with the requirements of American National Standards Institute A17.1-1965 with addenda A17.1a-1967, A17.1b-1968, A17.1c-1969, A17.1d-1970, and inspected in accordance with A17.2-1960 with addenda A17.2a-1965, A17.2b-1967.

§ 1926.553 Base-mounted drum hoists.

(a) *General requirements.* (1) Exposed moving parts such as gears, projecting screws, setscrews, chain, cables, chain sprockets, and reciprocating or rotating parts, which constitute a hazard, shall be guarded.

(2) All controls used during the normal operation cycle shall be located within easy reach of the operator's station.

(3) Electric motor operated hoists shall be provided with:

(i) A device to disconnect all motors from the line upon power failure and not permit any motor to be restarted until the controller handle is brought to the "off" position;

(ii) Where applicable, an overspeed preventive device;

(iii) A means whereby remotely operated hoists stop when any control is ineffective.

(4) All base-mounted drum hoists in use shall meet the applicable requirements for design, construction, installation, testing, inspection, maintenance, and operations, as prescribed by the manufacturer.

(b) *Specific requirements.* [Reserved]

§ 1926.554 Overhead hoists.

(a) *General requirements.* (1) The safe working load of the overhead hoist, as determined by the manufacturer, shall be indicated on the hoist, and this safe working load shall not be exceeded.

(2) The supporting structure to which the hoist is attached shall have a safe working load equal to that of the hoist.

(3) The support shall be arranged so as to provide for free movement of the hoist and shall not restrict the hoist from lining itself up with the load.

(4) The hoist shall be installed only in locations that will permit the operator to stand clear of the load at all times.

(5) Air hoists shall be connected to an air supply of sufficient capacity and pressure to safely operate the hoist. All air hoses supplying air shall be positively connected to prevent their becoming disconnected during use.

(6) All overhead hoists in use shall meet the applicable requirements for construction, design, installation, testing, inspection, maintenance, and operation, as prescribed by the manufacturer.

(b) *Specific requirements.* [Reserved]

§ 1926.555 Conveyors.

(a) *General requirements.* (1) Means for stopping the motor or engine shall be provided at the operator's station. Conveyor systems shall be equipped with an audible warning signal to be sounded immediately before starting up the conveyor.

(2) If the operator's station is at a remote point, similar provisions for stopping the motor or engine shall be provided at the motor or engine location.

(3) Emergency stop switches shall be arranged so that the conveyor cannot be started again until the actuating stop switch has been reset to running or "on" position.

(4) Screw conveyors shall be guarded to prevent employee contact with turning flights.

(5) Where a conveyor passes over work areas, aisles, or thoroughfares, suitable guards shall be provided to protect employees required to work below the conveyors.

(6) All crossovers, aisles, and passageways shall be conspicuously marked by suitable signs, as required by Subpart G of this part.

(7) Conveyors shall be locked out or otherwise rendered inoperable, and tagged out with a "Do Not Operate" tag during repairs and when operation is hazardous to employees performing maintenance work.

(8) All conveyors in use shall meet the applicable requirements for design, construction, inspection, testing, maintenance, and operation, as prescribed in the ANSI B20.1-1957, Safety Code for Conveyors, Cableways, and Related Equipment.

§ 1926.556 Aerial lifts.

(a) *General requirements.* (1) Unless otherwise provided in this section, aerial lifts acquired for use on or after the effective date of this section shall be designed and constructed in conformance with the applicable requirements of the American National Standard for "Vehicle Mounted Elevating and Rotating Work Platforms," ANSI A92.2-1969, including appendix. Aerial lifts acquired before the effective date of this section, which do not meet the requirements of ANSI A92.2-1969, may not be used after January 1, 1976, unless they shall have been modified so as to conform with the applicable design and construction requirements of ANSI A92.2-1969. Aerial lifts include the following types of vehicle-mounted aerial devices used to elevate personnel to jobsites above ground:

(i) Extensible boom platforms;

(ii) Aerial ladders;

(iii) Articulating boom platforms;

(iv) Vertical towers; and

(v) A combination of any of the above.

Aerial equipment may be made of metal, wood, fiberglass reinforced plastic (FRP), or other material; may be powered or manually operated; and are deemed to be aerial lifts whether or not they are capable of rotating about a substantially vertical axis.

(2) Aerial lifts may be "field modified" for uses other than those intended by the manufacturer provided the modification has been certified in writing by the manufacturer or by any other equivalent entity, such as a nationally recognized testing laboratory, to be in conformity with all applicable provisions of ANSI A92.2-1969 and this section and to be at least as safe as the equipment was before modification.

(b) *Specific requirements*—(1) *Ladder trucks and tower trucks.* Aerial ladders shall be secured in the lower traveling position by the locking device on top of the truck cab, and the manually operated device at the base of the ladder before the truck is moved for highway travel.

(2) *Extensible and articulating boom platforms.* (i) Lift controls shall be tested each day prior to use to determine that such controls are in safe working condition.

(ii) Only authorized persons shall operate an aerial lift.

(iii) Belting off to an adjacent pole, structure, or equipment while working from an aerial lift shall not be permitted.

(iv) Employees shall always stand firmly on the floor of the basket, and shall not sit or climb on the edge of the basket or use planks, ladders, or other devices for a work position.

(v) A body belt shall be worn and a lanyard attached to the boom or basket when working from an aerial lift.

(vi) Boom and basket load limits specified by the manufacturer shall not be exceeded.

(vii) The brakes shall be set and when outriggers are used, they shall be positioned on pads or a solid surface. Wheel chocks shall be installed before using an aerial lift on an incline, provided they can be safely installed.

(viii) An aerial lift truck shall not be moved when the boom is elevated in a working position with men in the basket, except for equipment which is specifically designed for this type of operation in accordance with the provisions of subparagraphs (1) and (2) of paragraph (a) of this section.

(ix) Articulating boom and extensible boom platforms, primarily designed as personnel carriers, shall have both platform (upper) and lower controls. Upper controls shall be in or beside the platform within easy reach of the operator. Lower controls shall provide for overriding the upper controls. Controls shall be plainly marked as to their function. Lower level controls shall not be operated unless permission has been obtained from the employee in the lift, except in case of emergency.

(x) Climbers shall not be worn while performing work from an aerial lift.

(xi) The insulated portion of an aerial lift shall not be altered in any manner that might reduce its insulating value.

(xii) Before moving an aerial lift for travel, the boom(s) shall be inspected to see that it is properly cradled and outriggers are in stowed position except as provided in subdivision (viii) of this subparagraph.

(3) *Electrical tests.* All electrical tests shall conform to the requirements of ANSI A92.2-1969 section 5. However equivalent d.c. voltage tests may be used in lieu of the a.c. voltage specified in A92.2-1969; d.c. voltage tests which are approved by the equipment manufacturer or equivalent entity shall be considered an equivalent test for the purpose of this subparagraph (3).

(4) *Bursting safety factor.* The provisions of the American National Standards Institute standard ANSI A92.2-1969, section 4.9 Bursting Safety Factor shall apply to all critical hydraulic and pneumatic components. Critical components are those in which a failure would result in a free fall or free rotation of the boom. All noncritical components shall have a bursting safety factor of at least 2 to 1.

(5) *Welding standards.* All welding shall conform to the following standards as applicable:

(i) Standard Qualification Procedure, AWS B3.0-41.

(ii) Recommended Practices for Automotive Welding Design, AWS D8.4-61.

(iii) Standard Qualification of Welding Procedures and Welders for Piping and Tubing, AWS D10.9-69.

(iv) Specifications for Welding Highway and Railway Bridges, AWS D2.0-69.

Subpart O—Motor Vehicles, Mechanized Equipment, and Marine Operations [1]

Sec.

1926.600 Equipment.
1910.176 Handling materials—general.
1910.169 Air receivers.
1926.601 Motor vehicles.
1926.602 Material handling equipment.
1926.603 Pile driving equipment.
1926.604 Site clearing.
1926.605 Marine operations and equipment.
1926.606 Definitions applicable to this subpart.

§ 1926.600 Equipment.

(a) *General requirements.* (1) All equipment left unattended at night, adjacent to a highway in normal use, or adjacent to construction areas where work is in progress, shall have appropriate lights or reflectors, or barricades equipped with appropriate lights or reflectors, to identify the location of the equipment.

(2) A safety tire rack, cage, or equivalent protection shall be provided and used when inflating, mounting, or dismounting tires installed on split rims, or rims equipped with locking rings or similar devices.

(3) (i) Heavy machinery, equipment, or parts thereof, which are suspended or held aloft by use of slings, hoists, or jacks shall be substantially blocked or cribbed to prevent falling or shifting before employees are permitted to work under or between them. Bulldozer and scraper blades, end-loader buckets, dump bodies, and similar equipment, shall be either fully lowered or blocked when being repaired or when not in use. All controls shall be in a neutral position, with the motors stopped and brakes set, unless work being performed requires otherwise.

(ii) Whenever the equipment is parked, the parking brake shall be set. Equipment parked on inclines shall have the wheels chocked and the parking brake set.

(4) The use, care and charging of all batteries shall conform to the requirements of Subpart K of this part.

(5) All cab glass shall be safety glass, or equivalent, that introduces no visible distortion affecting the safe operation of any machine covered by this subpart.

(6) All equipment covered by this subpart shall comply with the requirements of § 1518.550(a)(15) when working or being moved in the vicinity of power lines or energized transmitters.

(b) *Specific requirements.* [Reserved]

The following requirements from 29 CFR Part 1910 (General Industry) have been identified as applicable to construction (29 CFR 1926.600 *Equipment*), an accordance with the scope noted below.

§ 1910.176 Handling materials—general.

* * * * *

(f) *Rolling railroad cars.* Derail and/or bumper blocks shall be provided on spur railroad tracks where a rolling car could contact other cars being worked, enter a building, work or traffic area.

* * * * *

§ 1910.169 Air receivers.

(a) *General requirements*—(1) *Application.* This section applies to compressed air receivers, and other equipment used in providing and utilizing compressed air for performing operations such as cleaning, drilling, hoisting, and chipping. On the other hand, however, this section does not deal with the special problems created by using compressed air to convey materials nor the problems created when men work in compressed air as in tunnels and caissons. This section is not intended to apply to compressed air machinery and equipment used on transportation vehicles such as steam railroad cars, electric railway cars, and automotive equipment.

(2) *New and existing equipment* (i) All new air receivers installed after the effective date of these regulations shall be constructed in accordance with the 1968 edition of the A.S.M.E. Boiler and Pressure Vessel Code Section VIII.

(ii) All safety valves used shall be constructed, installed, and maintained in accordance with the A.S.M.E. Boiler and Pressure Vessel Code, Section VIII Edition 1968.

(b) *Installation and equipment requirements*—(1) *Installation.* Air receivers shall be so installed that all drains, handholes, and manholes therein are easily accessible. Air receivers should be supported with sufficient clearance to permit a complete external inspection and to avoid corrosion of external surfaces. Under no circumstances shall an air receiver be buried underground or located in an inaccessible place. The receiver should be located as close to the compressor or aftercooler as is possible in order to keep the discharge pipe short.

(2) *Drains and traps.* A drain pipe and valve shall be installed at

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[1] Portions of the listed Part 1910 standards have been identified as applicable to construction.

the lowest point of every air receiver to provide for the removal of accumulated oil and water. Adequate automatic traps may be installed in addition to drain valves. The drain valve on the air receiver shall be opened and the receiver completely drained frequently and at such intervals as to prevent the accumulation of excessive amounts of liquid in the receiver.

(3) *Gages and valves.* (i) Every air receiver shall be equipped with an indicating pressure gage (so located as to be readily visible) and with one or more spring-loaded safety valves. The total relieving capacity of such safety valves shall be such as to prevent pressure in the receiver from exceeding the maximum allowable working pressure of the receiver by more than 10 percent.

(ii) No valve of any type shall be placed between the air receiver and its safety valve or valves.

(iii) Safety appliances, such as safety valves, indicating devices and controlling devices, shall be constructed, located, and installed so that they cannot be readily rendered inoperative by any means, including the elements.

(iv) All safety valves shall be tested frequently and at regular intervals to determine whether they are in good operating condition.

§ 1926.601 Motor vehicles.

(a) *Coverage.* Motor vehicles as covered by this part are those vehicles that operate within an off-highway jobsite, not open to public traffic. The requirements of this section do not apply to equipment for which rules are prescribed in § 1926.602.

(b) *General requirements.* (1) All vehicles shall have a service brake system, an emergency brake system, and a parking brake system. These systems may use common components, and shall be maintained in operable condition.

(2)(i) Whenever visibility conditions warrant additional light, all vehicles, or combinations of vehicles, in use shall be equipped with at least two headlights and two taillights in operable condition.

(ii) All vehicles, or combination of vehicles, shall have brake lights in operable condition regardless of light conditions.

(3) All vehicles shall be equipped with an adequate audible warning device at the operator's station and in an operable condition.

(4) No employer shall use any motor vehicle equipment having an obstructed view to the rear unless:

(i) The vehicle has a reverse signal alarm audible above the surrounding noise level; or

(ii) The vehicle is backed up only when an observer signals that it is safe to do so.

(5) All vehicles with cabs shall be equipped with windshields and powered wipers. Cracked and broken glass shall be replaced. Vehicles operating in areas or under conditions that cause fogging or frosting of the windshields shall be equipped with operable defogging or defrosting devices.

(6) All haulage vehicles, whose pay load is loaded by means of cranes, power shovels, loaders, or similar equipment, shall have a cab shield and/or canopy adequate to protect the operator from shifting or falling materials.

(7) Tools and material shall be secured to prevent movement when transported in the same compartment with employees.

(8) Vehicles used to transport employees shall have seats firmly secured and adequate for the number of employees to be carried.

(9) Seat belts and anchorages meeting the requirements of 49 CFR Part 571 (Department of Transportation, Federal Motor Vehicle Safety Standards) shall be installed in all motor vehicles.

(10) Trucks with dump bodies shall be equipped with positive means of support, permanently attached, and capable of being locked in position to prevent accidental lowering of the body while maintenance or inspection work is being done.

(11) Operating levers controlling hoisting or dumping devices on haulage bodies shall be equipped with a latch or other device which will prevent accidental starting or tripping of the mechanism.

(12) Trip handles for tailgates of dump trucks shall be so arranged that, in dumping, the operator will be in the clear.

(13) (i) All rubber-tired motor vehicle equipment manufactured on or after May 1, 1972, shall be equipped with fenders. All rubber-tired motor vehicle equipment manufactured before May 1, 1972, shall be equipped with fenders not later than May 1, 1973.

(ii) Mud flaps may be used in lieu of fenders whenever motor vehicle equipment is not designed for fenders.

(14) All vehicles in use shall be checked at the beginning of each shift to assure that the following parts, equipment, and accessories are in safe operating condition and free of apparent damage that could cause failure while in use: service brakes, including trailer brake connections; parking system (hand brake); emergency stopping system (brakes); tires; horn; steering mechanism; coupling devices; seat belts; operating controls; and safety devices. All defects shall be corrected before the vehicle is placed in service. These requirements also apply to equipment such as lights, reflectors, windshield wipers, defrosters, fire extinguishers, etc., where such equipment is necessary.

§ 1926.602 Material handling equipment.

(a) *Earthmoving equipment; General* (1) These rules apply to the following types of earthmoving equipment: scrapers, loaders, crawler or wheel tractors, bulldozers, off-highway trucks, graders, agricultural and industrial tractors, and similar equipment. The promulgation of specific rules for compactors and rubber-tired "skid-steer" equipment is reserved pending consideration of standards currently being developed.

(2) *Seat belts.* (i) Seat belts shall be provided on all equipment covered by this section and shall meet the requirements of the Society of Automotive Engineers, J386-1969, Seat Belts for Construction Equipment. Seat belts for agricultural and light industrial tractors shall meet the seat belt requirements of Society of Automotive Engineers J333a-1970, Operator Protection for Agricultural and Light Industrial Tractors.

(ii) Seat belts need not be provided for equipment which is designed only for standup operation.

(iii) Seat belts need not be provided for equipment which does not have roll-over protective structure (ROPS) or adequate canopy protection.

(3) *Access roadways and grades.* (i) No employer shall move or cause to be moved construction equipment or vehicles upon any access roadway or grade unless the access roadway or grade is constructed and maintained to accommodate safely the movement of the equipment and vehicles involved.

(ii) Every emergency access ramp and berm used by an employer shall be constructed to restrain and control runaway vehicles.

(4) *Brakes.* All earthmoving equipment mentioned in this § 1926.602(a) shall have a service braking system capable of stopping and holding the equipment fully loaded, as specified in Society of Automotive Engineers SAE-J237, Loader Dozer-1971, J236, Graders-1971, and J319b, Scrapers-1971. Brake systems for self-propelled rubber-tired off-highway equipment manufactured after January 1, 1972 shall meet the applicable minimum performance criteria set forth in the following Society of Automotive Engineers Recommended Practices:

Self-Propelled Scrapers	SAE J319b-1971
Self-Propelled Graders	SAE J236-1971
Trucks and Wagons	SAE J166-1971
Front End Loaders and Dozers	SAE J237-1971

(5) *Fenders.* Pneumatic-tired earthmoving haulage equipment (trucks, scrapers, tractors, and trailing units) whose maximum speed exceeds 15 miles per hour, shall be equipped with fenders on all wheels to meet the requirements of Society of Automotive Engineers SAE J321a-1970, Fenders for Pneumatic-Tired Earthmoving Haulage Equipment. An employer may, of course, at any time seek to show under § 1926.2, that the uncovered wheels present no hazard to personnel from flying materials.

(6) *Rollover protective structures (ROPS).* See Subpart W of this part for requirements for rollover protective structures and overhead protection.

(7) *Rollover protective structures for off-highway trucks.* The promulgation of standards for rollover protective structures for off-highway trucks is reserved pending further study and development.

(8) *Specific effective dates—brakes and fenders.* (i) Equipment mentioned in subparagraphs (4) and (5) of this paragraph, and manufactured after January 1, 1972, which is used by any employer after that date, shall comply with the applicable rules prescribed therein concerning brakes and fenders. Equipment mentioned in subparagraph (4) and (5) of this paragraph, and manufactured before January 1, 1972, which is used by any employer after that date, shall meet the applicable rules prescribed herein not later than June 30, 1973. It should be noted that, as permitted under § 1926.2, employers may request variations from the applicable brakes and fender standards required by this subpart. Employers wishing to seek variations from the applicable brakes and fenders rules may submit any requests for variations after the publication of this document in the FEDERAL REGISTER. Any statements intending to meet the requirements of § 1926.2(b)(4), should specify how the variation would protect the safety of the employees by providing for any compensating restrictions on the operation of equipment.

(ii) Notwithstanding the provisions of paragraph (a)(8)(i) of this section, the requirement that fenders be installed on pneumatic-tired earthmoving haulage equipment manufactured before January 1, 1972, shall take effect on January 2, 1974.

(9) *Audible alarms.* (i) All bidirectional machines, such as rollers, compacters, front-end loaders, bulldozers, and similar equipment, shall be equipped with a horn, distinguishable from the surrounding noise level, which shall be operated as needed when the machine is moving in either direction. The horn shall be maintained in an operative condition.

(ii) No employer shall permit earthmoving or compacting equipment which has an obstructed view to the rear to be used in reverse gear unless the equipment has in operation a reverse signal alarm distinguishable from the surrounding noise level or an employee signals that it is safe to do so.

(10) *Scissor points.* Scissor points on all front-end loaders, which constitute a hazard to the operator during normal operation, shall be guarded.

(b) *Excavating and other equipment.* (1) Tractors covered in paragraph (a) of this section shall have seat belts as required for the operators when seated in the normal seating arrangement for tractor operation, even though back-hoes, breakers, or other similar attachments are used on these machines for excavating or other work.

(2) For the purposes of this subpart and of Subpart N of this part, the nomenclatures and descriptions for measurement of dimensions of machinery and attachments shall be as described in Society of Automotive Engineers 1970 Handbook, pages 1088 through 1103.

(3) The safety requirements, ratios, or limitations applicable to machines or attachment usage covered in Power Crane and Shovel Associations Standards No. 1 and No. 2 of 1968, and No. 3 of 1969, shall be complied with, and shall apply to cranes, machines, and attachments under this part.

(c) *Lifting and hauling equipment (other than equipment covered under Subpart N of this part).* (1) Industrial trucks shall meet the requirements of § 1926.600 and the following:

(i) Lift trucks, stackers, etc., shall have the rated capacity clearly posted on the vehicle so as to be clearly visible to the operator. When auxiliary removable counterweights are provided by the manufacturer, corresponding alternate rated capacities also shall be clearly shown on the vehicle. These ratings shall not be exceeded.

(ii) No modifications or additions which affect the capacity or safe operation of the equipment shall be made without the manufacturer's written approval. If such modifications or changes are made, the capacity, operation, and maintenance instruction plates, tags, or decals shall be changed accordingly. In no case shall the original safety factor of the equipment be reduced.

(iii) If a load is lifted by two or more trucks working in unison, the proportion of the total load carried by any one truck shall not exceed its capacity.

(iv) Steering or spinner knobs shall not be attached to the steering wheel unless the steering mechanism is of a type that prevents road reactions from causing the steering handwheel to spin. The steering knob shall be mounted within the periphery of the wheel.

(v) All high lift rider industrial trucks shall be equipped with overhead guards which meet the configuration and structural requirements as defined in paragraph 421 of American National Standards Institute B56.1-1969, Safety Standards for Powered Industrial Trucks.

(vi) All industrial trucks in use shall meet the applicable requirements of design, construction, stability, inspection, testing, maintenance, and operation, as defined in American National Standards Institute B56.1-1969, Safety Standards for Powered Industrial Trucks.

§ 1926.603 Pile driving equipment.

(a) *General requirements.* (1) Boilers and piping systems which are a part of, or used with, pile driving equipment shall meet the applicable requirements of the American Society of Mechanical Engineers, Power Boilers (section I).

(2) All pressure vessels which are a part of, or used with, pile driving equipment shall meet the applicable requirements of the American Society of Mechanical Engineers, Pressure Vessels (section VIII).

(3) Overhead protection, which will not obscure the vision of the operator and which meets the requirements of Subpart N of this part, shall be provided. Protection shall be the equivalent of 2-inch planking or other solid material of equivalent strength.

(4) Stop blocks shall be provided for the leads to prevent the hammer from being raised against the head block.

(5) A blocking device, capable of safely supporting the weight of the hammer, shall be provided for placement in the leads under the hammer at all times while employees are working under the hammer.

(6) Guards shall be provided across the top of the head block to prevent the cable from jumping out of the sheaves.

(7) When the leads must be inclined in the driving of batter piles, provisions shall be made to stabilize the leads.

(8) Fixed leads shall be provided with ladder, and adequate rings, or similar attachment points, so that the loft worker may engage his safety belt lanyard to the leads. If the leads are provided with loft platforms(s), such platform(s) shall be protected by standard guardrails.

(9) Steam hose leading to a steam hammer or jet pipe shall be securely attached to the hammer with an adequate length of at least ¼-inch diameter chain or cable to prevent whipping in the event the joint at the hammer is broken. Air hammer hoses shall be

provided with the same protection as required for steam lines.

(10) Safety chains, or equivalent means, shall be provided for each hose connection to prevent the line from thrashing around in case the coupling becomes disconnected.

(11) Steam line controls shall consist of two shutoff valves, one of which shall be a quick-acting lever type within easy reach of the hammer operator.

(12) Guys, outriggers, thrustouts, or counterbalances shall be provided as necessary to maintain stability of pile driver rigs.

(b) *Pile driving from barges and floats.* Barges or floats supporting pile driving operations shall meet the applicable requirements of § 1926.605.

(c) *Pile driving equipment.* (1) Engineers and winchmen shall accept signals only from the designated signalmen.

(2) All employees shall be kept clear when piling is being hoisted into the leads.

(3) When piles are being driven in an excavated pit, the walls of the pit shall be sloped to the angle of repose or sheet-piled and braced.

(4) When steel tube piles are being "blown out", employees shall be kept well beyond the range of falling materials.

(5) When it is necessary to cut off the tops of driven piles, pile driving operations shall be suspended except where the cutting operations are located at least twice the length of the longest pile from the driver.

(6) When driving jacked piles, all access pits shall be provided with ladders and bulkheaded curbs to prevent material from falling into the pit.

§ 1926.604 Site clearing.

(a) *General requirements.* (1) Employees engaged in site clearing shall be protected from hazards of irritant and toxic plants and suitably instructed in the first aid treatment available.

(2) All equipment used in site clearing operations shall be equipped with rollover guards meeting the requirements of this subpart. In addition, rider-operated equipment shall be equipped with an overhead and rear canopy guard meeting the following requirements:

(i) The overhead covering on this canopy structure shall be of not less than ⅛-inch steel plate or ¼-inch woven wire mesh with openings no greater than 1 inch, or equivalent.

(ii) The opening in the rear of the canopy structure shall be covered with not less than ¼-inch woven wire mesh with openings no greater than 1 inch.

(b) *Specific requirements.* [Reserved]

§ 1926.605 Marine operations and equipment.

(a) *Material handling operations.* (1) Operations fitting the definition of "material handling" shall be performed in conformance with applicable requirements of Part 1918, "Safety and Health Regulations for Longshoring" of this chapter. The term "longshoring operations" means the loading, unloading, moving, or handling of construction materials, equipment and supplies, etc. into, in, on, or out of any vessel from a fixed structure or shore-to-vessel, vessel-to-shore or fixed structure or vessel-to-vessel.

(b) *Access to barges.* (1) Ramps for access of vehicles to or between barges shall be of adequate strength, provided with side boards, well maintained, and properly secured.

(2) Unless employees can step safely to or from the wharf, float, barge, or river towboat, either a ramp, meeting the requirements of subparagraph (1) of this paragraph, or a safe walkway, shall be provided.

(3) Jacob's ladders shall be of the double rung or flat tread type. They shall be well maintained and properly secured.

(4) A Jacob's ladder shall either hang without slack from its lashings or be pulled up entirely.

(5) When the upper end of the means of access rests on or is flush with the top of the bulwark, substantial steps properly secured and equipped with at least one substantial hand rail approximately 33 inches in height, shall be provided between the top of the bulwark and the deck.

(6) Obstructions shall not be laid on or across the gangway.

(7) The means of access shall be adequately illuminated for its full length.

(8) Unless the structure makes it impossible, the means of access shall be so located that the load will not pass over employees.

(c) *Working surfaces of barges.* (1) Employees shall not be permitted to walk along the sides of covered lighters or barges with coamings more than 5 feet high, unless there is a 3-foot clear walkway, or a grab rail, or a taut handline is provided.

(2) Decks and other working surfaces shall be maintained in a safe condition.

(3) Employees shall not be permitted to pass fore and aft, over, or around deckloads, unless there is a safe passage.

(4) Employees shall not be permitted to walk over deckloads from rail to coaming unless there is a safe passage. If it is necessary to stand at the outboard or inboard edge of the deckload where less than 24 inches of bulwark, rail, coaming, or other protection exists, all employees shall be provided with a suitable means of protection against falling from the deckload.

(d) *First-aid and lifesaving equipment.* (1) Provisions for rendering first aid and medical assistance shall be in accordance with Subpart D of this part.

(2) The employer shall ensure that there is in the vicinity of each barge in use at least one U.S. Coast Guard-approved 30-inch lifering with not less than 90 feet of line attached, and at least one portable or permanent ladder which will reach the top of the apron to the surface of the water. If the above equipment is not available at the pier, the employer shall furnish it during the time that he is working the barge.

(3) Employees walking or working on the unguarded decks of barges shall be protected with U.S. Coast Guard-approved work vests or buoyant vests.

(e) *Diving operations.* Commercial diving operations shall be subject to Subpart T of Part 1910, §§ 1910.401-1910.441, of this chapter.

NOTE: See Subpart T, reprinted immediately following the Part 1926 standards.

§ 1926.606 Definitions applicable to this subpart.

(a) "Apron"—The area along the waterfront edge of the pier or wharf.

(b) "Bulwark"—The side of a ship above the upper deck.

(c) "Coaming"—The raised frame, as around a hatchway in the deck, to keep out water.

(d) "Jacob's ladder"—A marine ladder of rope or chain with wooden or metal rungs.

(e) "Rail", for the purpose of § 1926.605, means a light structure serving as a guard at the outer edge of a ship's deck.

Subpart P—Excavations, Trenching, and Shoring

1926.650 General protection requirements.
1926.651 Specific excavation requirements.
1926.652 General trenching requirements.
1926.653 Definitions applicable to this subpart.

§ 1926.650 General protection requirements.

(a) Walkways, runways, and sidewalks shall be kept clear of excavated material or other obstructions and no sidewalks shall be undermined unless shored to carry a minimum live load of one hundred and twenty-five (125) pounds per square foot.

(b) If planks are used for raised walkways, runways, or sidewalks, they shall be laid parallel to the length of the walk and fastened together against displacement.

(c) Planks shall be uniform in thickness and all exposed ends shall be provided with beveled cleats to prevent tripping.

(d) Raised walkways, runways, and sidewalks shall be provided with plank steps on strong stringers. Ramps, used in lieu of steps, shall be provided with cleats to insure a safe walking surface.

(e) All employees shall be protected with personal protective equipment for the protection of the head, eyes, respiratory organs, hands, feet, and other parts of the body as set forth in Subpart E of this part.

(f) Employees exposed to vehicular traffic shall be provided with and shall be instructed to wear warning vests marked with or made of reflectorized or high visibility material.

(g) Employees subjected to hazardous dusts, gases, fumes, mists, or atmospheres deficient in oxygen, shall be protected with approved respiratory protection as set forth in Subpart D of this part.

(h) No person shall be permitted under loads handled by power shovels, derricks, or hoists. To avoid any spillage employees shall be required to stand away from any vehicle being loaded.

(i) Daily inspections of excavations shall be made by a competent person. If evidence of possible cave-ins or slides is apparent, all work in the excavation shall cease until the necessary precautions have been taken to safeguard the employees.

§ 1926.651 Specific excavation requirements.

(a) Prior to opening an excavation, effort shall be made to determine whether underground installations; i.e., sewer, telephone, water, fuel, electric lines, etc., will be encountered, and if so, where such underground installations are located. When the excavation approaches the estimated location of such an installation, the exact location shall be determined and when it is uncovered, proper supports shall be provided for the existing installation. Utility companies shall be contacted and advised of proposed work prior to the start of actual excavation.

(b) Trees, boulders, and other surface encumbrances, located so as to create a hazard to employees involved in excavation work or in the vicinity thereof at any time during operations, shall be removed or made safe before excavating is begun.

(c) The walls and faces of all excavations in which employees are exposed to danger from moving ground shall be guarded by a shoring system, sloping of the ground, or some other equivalent means.

(d) Excavations shall be inspected by a competent person after every rainstorm or other hazard-increasing occurrence, and the protection against slides and cave-ins shall be increased if necessary.

(e) The determination of the angle of repose and design of the supporting system shall be based on careful evaluation of pertinent factors such as: Depth or cut; possible variation in water content of the material while the excavation is open; anticipated changes in materials from exposure to air, sun, water, or freezing; loading imposed by structures, equipment, overlying material, or stored material; and vibration from equipment, blasting, traffic, or other sources.

(f) Supporting systems; i.e., piling, cribbing, shoring, etc., shall be designed by a qualified person and meet accepted engineering requirements. When tie rods are used to restrain the top of sheeting or other retaining systems, the rods shall be securely anchored well back of the angle of repose. When tight sheeting or sheet piling is used, full loading due to ground water table shall be assumed, unless prevented by weep holes or drains or other means. Additional stringers, ties, and bracing shall be provided to allow for any necessary temporary removal of individual supports.

(g) All slopes shall be excavated to at least the angle of repose except for areas where solid rock allows for line drilling or presplitting.

(h) The angle of repose shall be flattened when an excavation has water conditions, silty materials, loose boulders, and areas where erosion, deep frost action, and slide planes appear.

(i)(1) In excavations which employees may be required to enter, excavated or other material shall be effectively stored and retained at least 2 feet or more from the edge of the excavation.

(2) As an alternative to the clearance prescribed in subparagraph (1) of this paragraph, the employer may use effective barriers or other effective retaining devices in lieu thereof in order to prevent excavated or other materials from falling into the excavation.

(j) Sides, slopes, and faces of all excavations shall meet accepted engineering requirements by scaling, benching, barricading, rock bolting, wire meshing, or other equally effective means. Special attention shall be given to slopes which may be adversely affected by weather or moisture content.

(k) Support systems shall be planned and designed by a qualified person when excavation is in excess of 20 feet in depth, adjacent to structures or improvements, or subject to vibration or ground water.

(l) Materials used for sheeting, sheet piling, cribbing, bracing, shoring, and underpinning shall be in good serviceable condition, and timbers shall be sound, free from large or loose knots, and of proper dimensions.

(m) Special precations shall be taken in sloping or shoring the sides of excavations adjacent to a previously backfilled excavation or a fill, particularly when the separation is less than the depth of the excavation. Particular attention also shall be paid to joints and seams of material comprising a face and the slope of such seams and joints.

(n) Except in hard rock, excavations below the level of the base of footing of any foundation or retaining wall shall not be permitted, unless the wall is underpinned and all other precautions taken to insure the stability of the adjacent walls for the protection of employees involved in excavation work or in the vicinity thereof.

(o) If the stability of adjoining buildings or walls is endangered by excavations, shoring, bracing, or underpinning shall be provided as necessary to insure their safety. Such shoring, bracing, or underpinning shall be inspected daily or more often, as conditions warrant, by a competent person and the protection effectively maintained.

(p) Diversion ditches, dikes, or other suitable means shall be used to prevent surface water from entering an excavation and to provide adequate drainage of the area adjacent to the excavation. Water shall not be allowed to accumulate in an excavation.

(q) If it is necessary to place or operate power shovels, derricks, trucks, materials, or other heavy objects on a level above and near an excavation, the side of the excavation shall be sheet-piled, shored, and braced as necessary to resist the extra pressure due to such superimposed loads.

(r) Blasting and the use of explosives shall be performed in accordance with Subpart U of this part.

(s) When mobile equipment is utilized or allowed adjacent to excavations, substantial stop logs or barricades shall be installed. If possible, the grade should be away from the excavation.

(t) Adequate barrier physical protection shall be provided at all remotely located excavations. All wells, pits, shafts, etc., shall be barricaded or covered. Upon completion of exploration and similar operations, temporary wells, pits, shafts, etc., shall be backfilled.

(u) If possible, dust conditions shall be kept to a minimum by the use of water, salt, calcium chloride, oil, or other means.

(v) In locations where oxygen deficiency or gaseous conditions are possible, air in the excavation shall be tested. Controls, as set forth in Subparts D and E of this part, shall be established to assure acceptable atmospheric conditions. When flammable gases are present, adequate ventilation shall be provided or sources of ignition shall be eliminated. Attended emergency rescue equipment, such as breathing apparatus, a safety harness and line, basket stretcher, etc., shall be readily available where adverse atmospheric conditions may exist or develop in an excavation.

(w) Where employees or equipment are required or permitted to cross over excavations, walkways or bridges with standard guardrails shall be provided.

(x) Where ramps are used for employees or equipment, they shall be designed and constructed by qualified persons in accordance with accepted engineering requirements.

(y) All ladders used on excavation operations shall be in accordance with the requirements of Subpart L of this part.

§ 1926.652 Specific trenching requirements.

(a) Banks more than 5 feet high shall be shored, laid back to a stable slope, or some other equivalent means of protection shall be provided where employees may be exposed to moving ground or cave-ins. Refer to Table P-1 as a guide in sloping of banks. Trenches less than 5 feet in depth shall also be effectively protected when examination of the ground indicates hazardous ground movement may be expected.

(b) Sides of trenches in unstable or soft material, 5 feet or more in depth, shall be shored, sheeted, braced, sloped, or otherwise supported by means of sufficient strength to protect the employees working within them. See Tables P-1, P-2 (following paragraph (g) of this section).

(c) Sides of trenches in hard or compact soil, including embankments, shall be shored or otherwise supported when the trench is more than 5 feet in depth and 8 feet or more in length. In lieu of shoring, the sides of the trench above the 5-foot level may be sloped to preclude collapse, but shall not be steeper than a 1-foot rise to each ½-foot horizontal. When the outside diameter of a pipe is greater than 6 feet, a bench of 4-foot minimum shall be provided at the toe of the sloped portion.

(d) Materials used for sheeting and sheet piling, bracing, shoring, and underpinning, shall be in good serviceable condition, and timbers used shall be sound and free from large or loose knots, and shall be designed and installed so as to be effective to the bottom of the excavation.

(e) Additional precautions by way of shoring and bracing shall be taken to prevent slides or cave-ins when excavations or trenches are made in locations adjacent to backfilled excavations, or where excavations are subjected to vibrations from railroad or highway traffic, the operation of machinery, or any other source.

(f) Employees entering bell-bottom pier holes shall be protected by the installation of a removable-type casing of sufficient strength to resist shifting of the surrounding earth. Such temporary protection shall be provided for the full depth of that part of each pier hole which is above the bell. A lifeline, suitable for instant rescue and securely fastened to a shoulder harness, shall be worn by each employee entering the shafts. This lifeline shall be individually manned and separate from any line used to remove materials excavated from the bell footing.

(g)(1) Minimum requirements for trench timbering shall be in accordance with Table P-2.

(2) Braces and diagonal shores in a wood shoring system shall not be subjected to compressive stress in excess of values given by the following formula:

$$S = 1300 - 20L/D$$

Maximum ratio $L/D = 50$

Where:

L = Length, unsupported, in inches.

D = Least side of the timber in inches.

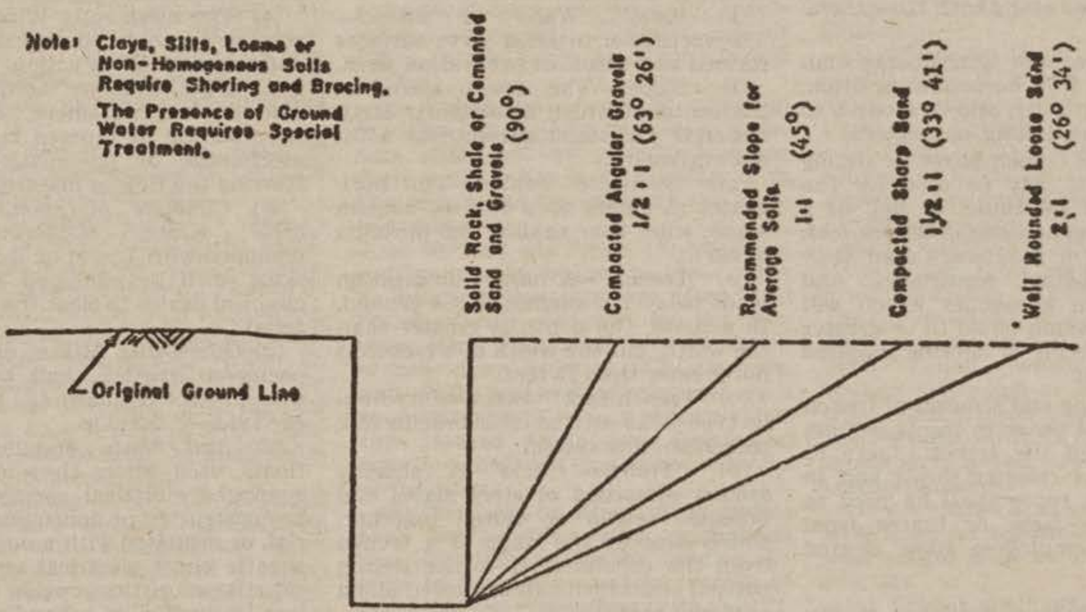
S = Allowable stress in pounds per square inch of cross-section.

[4510-26-C]

Table P - 1

APPROXIMATE ANGLE OF REPOSE

FOR SLOPING OF SIDES OF EXCAVATIONS


Note: Clays, Silts, Loams or Non-Homogeneous Soils Require Shoring and Bracing.
The Presence of Ground Water Requires Special Treatment.
Solid Rock, Shale or Cemented Sand and Gravels (90°)
Compacted Angular Gravels 1/2 : 1 (63° 26')
Recommended Slope for Average Soils 1:1 (45°)
Compacted Sharp Sand 1½:1 (33° 41')
Well Rounded Loose Sand 2:1 (26° 34')
Original Ground Line

1926.652(g)(2)

TABLE P-2

TRENCH SHORING—MINIMUM REQUIREMENTS

Depth of trench	Kind or condition of earth	Size and spacing of members										
		Uprights		Stringers		Cross braces [1]					Maximum spacing	
						Width of trench						
		Minimum dimension	Maximum spacing	Minimum dimension	Maximum spacing	Up to 3 feet	3 to 6 feet	6 to 9 feet	9 to 12 feet	12 to 15 feet	Vertical	Horizontal
Feet		Inches	Feet	Inches	Feet	Inches	Inches	Inches	Inches	Inches	Feet	Feet
5 to 10	Hard, compact	3 x 4 or 2 x 6	6			2 x 6	4 x 4	4 x 6	6 x 6	6 x 8	4	6
	Likely to crack	3 x 4 or 2 x 6	3	4 x 6	4	2 x 6	4 x 4	4 x 6	6 x 6	6 x 8	4	6
	Soft, sandy, or filled	3 x 4 or 2 x 6	Close sheeting	4 x 6	4	4 x 4	4 x 6	6 x 6	6 x 8	8 x 8	4	6
	Hydrostatic pressure	3 x 4 or 2 x 6	Close sheeting	6 x 8	4	4 x 4	4 x 6	6 x 6	6 x 8	8 x 8	4	6
10 to 15	Hard	3 x 4 or 2 x 6	4	4 x 6	4	4 x 4	4 x 6	6 x 6	6 x 8	8 x 8	4	6
	Likely to crack	3 x 4 or 2 x 6	2	4 x 6	4	4 x 4	4 x 6	6 x 6	6 x 8	8 x 8		6
	Soft, sandy, or filed	3 x 4 or 2 x 6	Close sheeting	4 x 6	4	4 x 6	6 x 6	6 x 8	8 x 8	8 x 10	4	6
	Hydrostatic pressure	3 x 6	Close sheeting	8 x 10	4	4 x 6	6 x 6	6 x 8	8 x 8	8 x 10	4	6
15 to 20	All kinds or conditions	3 x 6	Close sheeting	4 x 12	4	4 x 12	6 x 8	8 x 8	8 x 10	10 x 10	4	6
Over 20	All kinds or conditions	3 x 6	Close sheeting	6 x 8	4	4 x 12	8 x 8	8 x 10	10 x 10	10 x 12	4	[illegible]

[1] Trench jacks may be used in lieu of, or in combination with, cross braces.
Shoring is not required in solid rock, hard shale, or hard slag.
Where desirable, steel sheet piling and bracing of equal strength may be substituted for wood.

[4510-26-M]

(h) When employees are required to be in trenches 4 feet deep or more, an adequate means of exit, such as a ladder or steps, shall be provided and located so as to require no more than 25 feet of lateral travel.

(i) Bracing or shoring of trenches shall be carried along with the excavation.

(j) Cross braces or trench jacks shall be placed in true horizontal position, be spaced vertically, and be secured to prevent sliding, falling, or kickouts.

(k) Portable trench boxes or sliding trench shields may be used for the protection of personnel in lieu of a shoring system or sloping. Where such trench boxes or shields are used, they shall be designed, constructed, and maintained in a manner which will provide protection equal to or greater than the sheeting or shoring required for the trench.

(l) Backfilling and removal of trench supports shall progress together from the bottom of the trench. Jacks or braces shall be released slowly and, in unstable soil, ropes shall be used to pull out the jacks or braces from above after employees have cleared the trench.

§ 1926.653 Definitions applicable to this subpart.

(a) "Accepted engineering requirements (or practices)"—Those requirements or practices which are compatible with standards required by a registered architect, a registered professional engineer, or other duly licensed or recognized authority.

(b) "Angle of repose"—The greatest angle above the horizontal plane at which a material will lie without sliding.

(c) "Bank"—A mass of soil rising above a digging level.

(d) "Belled excavation"—A part of a shaft or footing excavation, usually near the bottom and bell-shaped; i.e., an enlargement of the cross section above.

(e) "Braces (trench)"—The horizontal members of the shoring system whose ends bear against the uprights or stringers.

(f) "Excavation"—Any manmade cavity or depression in the earth's surface, including its sides, walls, or faces, formed by earth removal and producing unsupported earth conditions by reasons of the excavation. If installed forms or similar structures reduce the depth-to-width relationship, an excavation may become a trench.

(g) "Faces"—See paragraph (k) of this section.

(h) "Hard compact soil"—All earth materials not classified as running or unstable.

(i) "Kickouts"—Accidental release or failure of a shore or brace.

(j) "Sheet pile"—A pile, or sheeting, that may form one of a continuous interlocking line, or a row of timber, concrete, or steel piles, driven in close contact to provide a tight wall to resist the lateral pressure of water, adjacent earth, or other materials.

(k) "Sides", "Walls", or "Faces"—The vertical or inclined earth surfaces formed as a result of excavation work.

(l) "Slope"—The angle with the horizontal at which a particular earth material will stand indefinitely without movement.

(m) "Stringers" (wales)—The horizontal members of a shoring system whose sides bear against the uprights or earth.

(n) "Trench"—A narrow excavation made below the surface of the ground. In general, the depth is greater than the width, but the width of a trench is not greater than 15 feet.

(o) "Trench jack"—Screw or hydraulic type jacks used as cross bracing in a trench shoring system.

(p) "Trench shield"—A shoring system composed of steel plates and bracing, welded or bolted together, which support the walls of a trench from the ground level to the trench bottom and which can be moved along as work progresses.

(q) "Unstable soil"—Earth material, other than running, that because of its nature or the influence of related conditions, cannot be depended upon to remain in place without extra support, such as would be furnished by a system of shoring.

(r) "Uprights"—The vertical members of a shoring system.

(s) "Wales"—See paragraph (m) of this section.

(t) "Walls"—See paragraph (k) of this section.

Subpart Q—Concrete, Concrete Forms, and Shoring

Sec.
1926.700 General provisions.
1926.701 Forms and shoring.
1926.702 Definitions applicable to this subpart.

§ 1926.700 General provisions.

(a) *General.* All equipment and materials used in concrete construction and masonry work shall meet the applicable requirements for design, construction, inspection, testing, maintenance and operations as prescribed in ANSI A10.9-1970, Safety Requirements for Concrete Construction and Masonry Work.

(b) *Reinforcing steel.* (1) Employees working more than 6 feet above any adjacent working surfaces, placing and tying reinforcing steel in walls, piers, columns, etc., shall be provided with a safety belt, or equivalent device, in accordance with Subpart E of this part.

(2) Employees shall not be permitted to work above vertically protruding reinforcing steel unless it has been protected to eliminate the hazard of impalement.

(3) Guying: Reinforcing steel for walls, piers, columns, and similar vertical structures shall be guyed and supported to prevent collapse.

(4) Wire mesh rolls: Wire mesh rolls shall be secured at each end to prevent dangerous recoiling action.

(c) *Bulk concrete handling.* Bulk storage bins, containers, or silos shall have conical or tapered bottoms with mechanical or pneumatic means of starting the flow of material.

(d) *Concrete placement*—(1) *Concrete mixers.* Concrete mixers equipped with 1-yard or larger loading skips shall be equipped with a mechanical device to clear the skip of material.

(2) *Guardrails.* Mixers of 1-yard capacity or greater shall be equipped with protective guardrails installed on each side of the skip.

(3) *Bull floats.* Handles on bull floats, used where they may contact energized electrical conductors, shall be constructed of nonconductive material, or insulated with a nonconductive sheath whose electrical and mechanical characteristics provide the equivalent protection of a handle constructed of nonconductive material.

(4) *Powered concrete trowels.* Powered and rotating-type concrete troweling machines that are manually guided shall be equipped with a control switch that will automatically shut off the power whenever the operator removes his hands from the equipment handles.

(5) *Concrete buggies.* Handles of buggies shall not extend beyond the wheels on either side of the buggy. Installation of knuckle guards on buggy handles is recommended.

(6) *Pumpcrete systems.* Pumpcrete or similar systems using discharge pipes shall be provided with pipe supports designed for 100 percent overload. Compressed air hose in such systems shall be provided with positive fail-safe joint connectors to prevent separation of sections when pressurized.

(7) *Concrete buckets.* (i) Concrete buckets equipped with hydraulic or pneumatically operated gates shall have positive safety latches or similar safety devices installed to prevent aggregate and loose material from accumulating on the top and sides of the bucket.

(ii) Riding of concrete buckets for any purpose shall be prohibited, and vibrator crews shall be kept out from under concrete buckets suspended from cranes or cableways.

(8) When discharging on a slope, the wheels of ready-mix trucks shall be

blocked and the brakes set to prevent movement.

(9) Nozzlemen applying a cement, sand, and water mixture through a pneumatic hose shall be required to wear protective head and face equipment, as prescribed in Subpart E of this part.

(e) *Vertical shoring*—(1) *General requirements.* (i) When temporary storage of reinforcing rods, material, or equipment on top of formwork becomes necessary, these areas shall be strengthened to meet the intended loads.

(ii) The sills for shoring shall be sound, rigid, and capable of carrying the maximum intended load.

(iii) All shoring equipment shall be inspected prior to erection to determine that it is as specified in the shoring layout. Any equipment found to be damaged shall not be used for shoring.

(iv) Erected shoring equipment shall be inspected immediately prior to, during, and immediately after the placement of concrete. Any shoring equipment that is found to be damaged or weakened shall be immediately reinforced or reshored.

(v) Reshoring shall be provided when necessary to safely support slabs and beams after stripping, or where such members are subjected to superimposed loads due to construction work done.

(2) *Tubular welded frame shoring.* (i) Metal tubular frames used for shoring shall not be loaded beyond the safe working load recommended by the manufacturer.

(ii) All locking devices on frames and braces shall be in good working order; coupling pins shall align the frame or panel legs; pivoted cross braces shall have their center pivot in place; and all components shall be in a condition similar to that of original manufacture.

(iii) When checking the erected shoring frames with the shoring layout, the spacing between towers and cross brace spacing shall not exceed that shown on the layout, and all locking devices shall be in the closed position.

(iv) Devices for attaching the external lateral stability bracing shall be securely fastened to the legs of the shoring frames.

(v) All baseplates, shore heads, extension devices, or adjustment screws shall be in firm contact with the footing sill and the form.

§ 1926.701 Forms and shoring.

(a) *General provisions.* (1) Formwork and shoring shall be designed, erected, supported, braced, and maintained so that it will safely support all vertical and lateral loads that may be imposed upon it during placement of concrete.

(2) Drawings or plans showing the jack layout, formwork, shoring, working decks, and scaffolding, shall be available at the jobsite.

(3) Stripped forms and shoring shall be removed and stockpiled promptly after stripping, in all areas in which persons are required to work or pass. Protruding nails, wire ties, and other form accessories not necessary to subsequent work shall be pulled, cut, or other means taken to eliminate the hazard.

(4) Imposition of any construction loads on the partially completed structure shall not be permitted unless such loading has been considered in the design and approved by the engineer-architect.

(b) *Vertical slip forms.* (1) The steel rods or pipe on which the jacks climb or by which the forms are lifted shall be specifically designed for the purpose. Such rods shall be adequately braced where not encased in concrete.

(2) Jacks and vertical supports shall be positioned in such a manner that the vertical loads are distributed equally and do not exceed the capacity of the jacks.

(3) The jacks or other lifting devices shall be provided with mechanical dogs or other automatic holding devices to provide protection in case of failure of the power supply or the lifting mechanism.

(4) Lifting shall proceed steadily and uniformly and shall not exceed the predetermined safe rate of lift.

(5) Lateral and diagonal bracing of the forms shall be provided to prevent excessive distortion of the structure during the jacking operation.

(6) During jacking operations, the form structure shall be maintained in line and plumb.

(7) All vertical lift forms shall be provided with scaffolding or work platforms completely encircling the area of placement.

(c) *Tube and coupler shoring.* (1) Couplers (clamps) shall not be used if they are deformed, broken, or have defective or missing threads on bolts, or other defects.

(2) The material used for the couplers (clamps) shall be of a structural type such as drop-forged steel, malleable iron, or structural grade aluminum. Gray cast iron shall not be used.

(3) When checking the erected shoring towers with the shoring layout, the spacing between posts shall not exceed that shown on the layout, and all interlocking of tubular members and tightness of couples shall be checked.

(4) All baseplates, shore heads, extension devices, or adjustment screws shall be in firm contact with the footing sill and the form material and shall be snug against the posts.

(d) *Single post shores.* (1) For stability, single post shores shall be horizontally braced in both the longitudinal and transverse directions, and diagonal bracing shall also be installed. Such bracing shall be installed as the shores are being erected.

(2) All baseplates or shore heads of single post shores shall be in firm contact with the footing sill and the form materials.

(3) Whenever single post shores are used in more than one tier, the layout shall be designed and inspected by a structural engineer.

(4) When formwork is at an angle, or sloping, or when the surface shored is sloping, the shoring shall be designed for such loading.

(5) Adjustment of single post shores to raise formwork shall not be made after concrete is in place.

(6) Fabricated single post shores shall not be used if heavily rusted, bent, dented, rewelded, or having broken weldments or other defects. If they contain timber, they shall not be used if timber is split, cut, has sections removed, is rotted, or otherwise structurally damaged.

(7) All timber and adjusting devices to be used for adjustable timber single post shores shall be inspected before erection.

(8) Timber shall not be used if it is split, cut, has sections removed, is rotted, or is otherwise structurally damaged.

(9) Adjusting devices shall not be used if heavily rusted, bent, dented, rewelded, or having broken weldments or other defects.

(10) All nails used to secure bracing or adjustable timber single post shores shall be driven home and the point of the nail bent over if possible.

§ 1926.702 Definitions applicable to this subpart.

(a) "Bull float"—A tool used to spread out and smooth the concrete.

(b) "Formwork" or "falsework"—The total system of support for freshly placed concrete, including the mold or sheathing which contacts the concrete as well as all supporting members, hardware, and necessary bracing.

(c) "Guy"—A line that steadies a high piece or structure by pulling against an off-center load.

(d) "Shore"—A supporting member that resists a compressive force imposed by a load.

(e) "Vertical slip forms"—Forms which are jacked vertically and continuously during placing of the concrete.

Subpart R—Steel Erection

Sec.

1926.750 Flooring requirements.
1926.751 Structural steel assembly.
1926.752 Bolting, riveting, fitting-up, and plumbing-up.

§ 1926.750 Flooring requirements.

(a) *Permanent flooring—skeleton steel construction in tiered buildings.* (1) The permanent floors shall be installed as the erection of structural members progresses, and there shall be not more than eight stories between the erection floor and the uppermost permanent floor, except where the structural integrity is maintained as a result of the design.

(2) At no time shall there be more than four floors or 48 feet of unfinished bolting or welding above the foundation or uppermost permanently secured floor.

(b) *Temporary flooring—skeleton steel construction in tiered buildings.* (1) (i) The derrick or erection floor shall be solidly planked or decked over its entire surface except for access openings. Planking or decking of equivalent strength, shall be of proper thickness to carry the working load. Planking shall be not less than 2 inches thick full size undressed, and shall be laid tight and secured to prevent movement.

(ii) On buildings or structures not adaptable to temporary floors, and where scaffolds are not used, safety nets shall be installed and maintained whenever the potential fall distance exceeds two stories or 25 feet. The nets shall be hung with sufficient clearance to prevent contacts with the surface of structures below.

(iii) Floor periphery—safety railing. A safety railing of ½-inch wire rope or equal shall be installed, approximately 42 inches high, around the periphery of all temporary-planked or temporary metal-decked floors of tier buildings and other multifloored structures during structural steel assembly.

(2) (i) Where skeleton steel erection is being done, a tightly planked and substantial floor shall be maintained within two stories or 30 feet, whichever is less, below and directly under that portion of each tier of beams on which any work is being performed, except when gathering and stacking temporary floor planks on a lower floor, in preparation for transferring such planks for use on an upper floor. Where such a floor is not practicable, paragraph (b)(1)(ii) of this section applies.

(ii) When gathering and stacking temporary floor planks, the planks shall be removed successively, working toward the last panel of the temporary floor so that the work is always done from the planked floor.

(iii) When gathering and stacking temporary floor planks from the last panel, the employees assigned to such work shall be protected by safety belts with safety lines attached to a catenary line or other substantial anchorage.

(c) *Flooring—other construction.* (1) In the erection of a building having double wood floor construction, the rough flooring shall be completed as the building progresses, including the tier below the one on which floor joists are being installed.

(2) For single wood floor or other flooring systems, the floor immediately below the story where the floor joists are being installed shall be kept planked or decked over.

§ 1926.751 Structural steel assembly.

(a) During the final placing of solid web structural members, the load shall not be released from the hoisting line until the members are secured with not less than two bolts, or the equivalent at each connection and drawn up wrench tight.

(b) Open web steel joists shall not be placed on any structural steel framework unless such framework is safely bolted or welded.

(c) (1) In steel framing, where bar joists are utilized, and columns are not framed in at least two directions with structural steel members, a bar joist shall be field-bolted at columns to provide lateral stability during construction.

(2) Where longspan joists or trusses, 40 feet or longer, are used, a center row of bolted bridging shall be installed to provide lateral stability during construction prior to slacking of hoisting line.

(3) No load shall be placed on open web steel joists until these security requirements are met.

(d) Tag lines shall be used for controlling loads.

§ 1926.752 Bolting, riveting, fitting-up, and plumbing-up.

(a) *General requirements.* (1) Containers shall be provided for storing or carrying rivets, bolts, and drift pins, and secured against accidental displacement when aloft.

(2) Pneumatic hand tools shall be disconnected from the power source, and pressure in hose lines shall be released, before any adjustments or repairs are made.

(3) Air line hose sections shall be tied together except when quick disconnect couplers are used to join sections.

(4) Eye protection shall be provided in accordance with Subpart E of this part.

(b) *Bolting.* (1) When bolts or drift pins are being knocked out, means shall be provided to keep them from falling.

(2) Impact wrenches shall be provided with a locking device for retaining the socket.

(c) *Riveting.* (1) Riveting shall not be done in the vicinity of combustible material unless precautions are taken to prevent fire.

(2) When rivet heads are knocked off, or backed out, means shall be provided to keep them from falling.

(3) A safety wire shall be properly installed on the snap and on the handle of the pneumatic riveting hammer and shall be used at all times. The wire size shall be not less than No. 9 (B&S gauge), leaving the handle and annealed No. 14 on the snap, or equivalent.

(d) *Plumbing-up.* (1) Connections of the equipment used in plumbing-up shall be properly secured.

(2) The turnbuckles shall be secured to prevent unwinding while under stress.

(3) Plumbing-up guys related equipment shall be placed so that employees can get at the connection points.

(4) Plumbing-up guys shall be removed only under the supervision of a competent person.

(e) Wood planking shall be of proper thickness to carry the working load, but shall be not less than 2 inches thick full size undressed, exterior grade plywood, at least ¾-inch thick, or equivalent material.

(f) Metal decking of sufficient strength shall be laid tight and secured to prevent movement.

(g) Planks shall overlap the bearing on each end by a minimum of 12 inches.

(h) Wire mesh, exterior plywood, or equivalent, shall be used around columns where planks do not fit tightly.

(i) Provisions shall be made to secure temporary flooring against displacement.

(j) All unused openings in floors, temporary or permanent, shall be completely planked over or guarded in accordance with Subpart M of this part.

(k) Employees shall be provided with safety belts in accordance with § 1926.104 when they are working on float scaffolds.

Subpart S—Tunnels and Shafts, Caissons, Cofferdams, and Compressed Air

Sec.

1926.800 Tunnels and shafts.
1926.801 Caissons.
1926.802 Cofferdams.
1926.803 Compressed air.
1926.804 Definitions applicable to this subpart.

§ 1926.800 Tunnels and shafts.

(a) *General.* (1) The specific requirements of this Subpart S, Tunnels, Shafts, Caissons, Cofferdams, and Compressed Air, shall be complied with as well as the applicable provisions of all other subparts of this part.

(2) Safe means of access shall be provided and maintained to all working places.

(3) When ladders and stairways are provided in shafts and steep inclines, they shall meet the requirements of Subparts L and M of this part.

(4) Access to unattended underground openings shall be restricted by gates or doors. Unused chutes, manways, or other openings shall be tightly covered, bulkheaded, or fenced off, and posted. Conduits, trenches, and manholes shall meet the requirements of Subparts M and P of this part.

(5) Subsidence areas that present hazards shall be fenced and posted.

(6) Each operation shall have a check-in and check-out system that will provide positive identification of every employee underground. An accurate record and location of the employees shall be kept on the surface.

(b) *Emergency provisions.* (1) Evacuation plans and procedures shall be developed and made known to the employees.

(2) Emergency hoisting facilities shall be readily available at shafts more than 50 feet in depth, unless hoisting facilities are provided that are independent of electrical power failures. A boatswain's chair shall meet the requirements of Subpart L of this part.

(3) Bureau of Mines approved self-rescuers shall be available near the advancing face to equip each face employee. Such equipment shall be on the haulage equipment and in other areas where employees might be trapped by smoke or gas, and shall be maintained in good condition.

(4) Telephone or other signal communication shall be provided between the work face and the tunnel portal, and such systems shall be independent of the tunnel power supply.

(c) *Air Quality and Ventilation*—(1) *Air quality and quantity.* (i) Instruments shall be provided to test the atmosphere quantitatively for carbon monoxide, nitrogen dioxide, flammable, or toxic gases, dusts, mists, and fumes that occur in the tunnel or shaft. Tests shall be conducted as frequently as necessary to assure that the required quality and quantity of air is maintained. A record of all tests shall be maintained and be kept available.

(ii) Field-type oxygen analyzers, or other suitable devices, shall be used to test for oxygen deficiency.

(iii) Respirators shall not be substituted for environmental control measures. However, where environmental controls have not yet been developed, or when necessary by the nature of the work involved (for example, welding, sand blasting, lead burning), an employee may work for short periods of time in concentrations of airborne contaminants which exceed the limit of permissible excursions referred to in subdivisions (iv) and (v) of this subparagraph, if such employee wears a respiratory protective device approved by the Bureau of Mines as protection against the particular hazards involved.

(iv) The exposure to airborne contaminants of an employee working in a tunnel or shaft shall not exceed the threshold limit values adopted by the American Conference of Governmental Industrial Hygienists, as set forth and explained in the 1970 edition of "Threshold Limit Values of Airborne Contaminants."

(v) Employees shall be withdrawn from areas in which there is a concentration of an airborne contaminant which exceeds the threshold limit value listed for that contaminant.

(vi) Atmospheres in all active areas shall contain at least 20 percent oxygen.

(2) *Ventilation.* (i) Tunnels shall be provided with mechanically induced primary ventilation in all work areas. The direction of airflow shall be reversible.

(ii) Ventilation doors, not operated mechanically, shall be designed and installed so that they are self-closing and will remain closed regardless of the direction of the air movement.

(iii) When there has been a failure of ventilation, and ventilation has been restored in a reasonable time, all places where flammable gas may have accumulated shall be examined by a competent person and determined to be free of flammable gas before power is restored and work resumed.

(iv) When the main fan or fans have been shut down with all employees out of the adit, tunnel or shaft, no employee, other than those qualified to examine the adit, tunnel, or shaft, or other authorized employee, shall go underground until the fans have been started, the work areas examined for gas and other hazards, and declared safe.

(v) The supply of fresh air shall not be less than 200 cubic feet per minute for each employee underground. The linear velocity of the air flow in the tunnel bore shall not be less than 30 feet per minute in those tunnels where blasting or rock drilling is conducted or where there are other conditions that are likely to produce dusts, fumes, vapors, or gases in harmful quantities.

(vi) If 1.5 percent or higher concentration of flammable gas is detected in air returning from an underground working place or places, the employees shall be withdrawn and the power cut off to the portion of the area endangered by such flammable gas until the concentration of such gas is reduced to 1 percent or less.

(vii) Internal combustion engines other than mobile diesel shall not be used underground. Mobile diesel-powered equipment used underground shall be certified by the Bureau of Mines, U.S. Department of the Interior or according to the Bureau of Mines publication "Mechanical Equipment for Mines—tests for permissibility and suitability, Part 32, Mobile Diesel Power Equipment for Non-Coal Mines, Schedule 24" of March 23, 1965.

(d) *Illumination.* (1) Sufficient lighting shall be provided, in accordance with the requirements of Table D-3 of Subpart D of this part, to permit safe operations at the face as well as in the general tunnel or shaft area and at the employees' workplace.

(e) *Fire prevention and control*—(1) *General.* (i) The requirements for fire prevention and protection specified in Subpart F of this part shall be complied with in all tunnel and shaft operations.

(ii) Signs warning against smoking and open flames shall be posted so that they can be readily seen in areas or places where fire or explosion hazards exist.

(iii) The carrying of matches, lighters, or other flame-producing smoking materials shall be prohibited in all underground operations where fire or explosion hazards exist.

(iv) Not more than a 1 day's supply of diesel fuel shall be stored underground.

(v) Gasoline or liquefied petroleum gases shall not be taken, stored, or used underground.

(vi) Oil, grease, or fuel stored underground shall be kept in tightly sealed containers in fire-resistant areas, at safe distances from explosives magazines, electrical installations, and shaft stations.

(vii) Air that has passed through underground oil or fuel-storage areas shall not be used to ventilate working areas.

(viii) Approved fire-resistant hydraulic fluids shall be used in hydraulically actuated underground machinery and equipment.

(ix) Fires shall not be built underground.

(x) Noncombustible barriers shall be installed below welding or burning operations in or over a shaft or raise.

(xi) Fire extinguishers or equivalent protection shall be provided at the head and tail pulleys of underground belt conveyors and at 300-foot intervals along the belt line.

(xii) At tunnel operations, employing 25 or more employees at one time underground at least two rescue crews (10 employees divided between shifts) shall be trained annually in rescue procedures, in the use, care, and limitations of oxygen breathing apparatus, and the use and maintenance of firefighting equipment. Not less than one crew (5 employees) shall be trained at smaller operations.

(f) *Personal protective equipment.* Protective clothing or equipment shall be worn as specified in Subparts D and E of this part.

(g) *Noise.* (1) Permissible noise exposures shall conform to those specified in Subpart D of this part.

(h) *Ground support*—(1) *Tunnel portal area.* Portals shall be protected and supported where loose soil or rock or fractured material is encountered.

(2) *Tunnel area.* (i) The employer shall examine and test the roof, face, and walls of the work area at the start of each shift, and frequently thereafter.

(ii) Loose ground shall be taken down or supported. Ground conditions along haulage ways and travelways shall be examined periodically and scaled or supported as necessary.

(iii) Torque meters and torque wrenches shall be available at tunnels where rock bolts are used for ground support. Frequent tests shall be made to determine if bolts meet the required torque. The test frequency shall be determined by rock conditions and distance from vibration sources.

(iv) Damaged or dislodged tunnel supports, whether steel sets or timber, shall be repaired or replaced. New supports shall be installed whenever possible before removing the damaged supports.

(v) All sets, including horseshoe-shaped or arched rib steel sets, shall be designed and installed so that the bottoms will have required anchorage to prevent pressures from pushing them inward into the excavation. Lateral bracing shall be provided between sets to further stabilize the support.

(3) *Shafts.* (i) Small diameter shafts, which employees are required to enter, shall be provided with a steel casing, concrete pipe, timber, or other material of required strength to support the surrounding earth.

(ii) The casing and bracing shall be provided the full depth of the shaft, or at least 5 feet into solid rock if possible, and shall extend at least 1 foot above ground level.

(iii) All wells or shafts over 5 feet in depth shall be retained with lagging, spiling, or casing.

(iv) In shafts, the employer shall inspect the walls, ladders, timbers, blocking, and wedges of the last set to determine if they have loosened following blasting operations. Where found unsafe, corrections shall be made before shift operations are started.

(v) Safety belts shall be worn on skips and platforms used in shafts by crews when the skip or cage does not occlude the opening to within 1 foot of the sides of the shaft, unless guardrails or cages are provided.

(i) *Drilling.* (1) Equipment that is to be used during a shift shall be inspected each shift by a competent person. Equipment defects affecting safety shall be corrected before the equipment is used.

(2) The drilling area shall be inspected for hazards before starting the drilling operation.

(3) Employees shall not be allowed on a drill mast while the drill bit is in operation.

(4) When a drill is being moved from one drilling area to another, drill steel, tools, and other equipment shall be secured, and the mast placed in a safe position.

(5) Receptacles or racks shall be provided for drill steel stored on jumbos.

(6) Before drilling cycle is started, warning shall be given to men working below jumbo decks.

(7) Drills on columns shall be anchored firmly before drilling is started and shall be retightened frequently thereafter.

(8) The employer shall provide mechanical means for lifting drills, roof bolts, mine straps, and other unwieldy heavy material to the top decks of jumbos over 10 feet in height.

(9) The employer shall provide stair access to jumbo decks wide enough to accommodate two persons if the deck is over 10 feet in height.

(10) On jumbo decks over 10 feet in height, guardrails which are removable (pipe in sockets with chain handrail), or equal, shall be provided on all sides and back platforms.

(11) Scaling bars shall be in good condition at all times, and blunted and severely worn bars shall not be used.

(12) When jumbos are being removed, riders will not be allowed on the jumbo unless they are assisting the driver.

(13) Before commencing the drill cycle, the face and lifters shall be examined for misfires (residual explosives) and, if found, they shall be removed before drilling commences at the face. Lifters shall not be drilled through blasted rock (muck) or water.

(14) Air lines that are buried in the invert shall be identified by signs posted nearby, warning all personnel.

(j) *Blasting.* All blasting and explosives-handling operations shall be conducted in compliance with Subpart U of this part.

(k) *Haulage.* (1) Equipment that is to be used during a shift shall be inspected by a competent person each shift. Equipment defects affecting safety shall be corrected before the equipment is used.

(2) Powered mobile equipment shall be provided with adequate brakes.

(3) Powered mobile haulage equipment shall be provided with audible warning devices. Lights shall be provided at both ends.

(4) Cab windows shall be of safety glass, or equivalent, in good condition, and shall be kept clean.

(5) Adequate backstops or brakes shall be installed on inclined conveyor drive units to prevent conveyors from running in reverse and creating a hazard to employees.

(6) No employees shall be permitted to ride a power-driven chain, belt, or bucket conveyor, unless the conveyor is specifically designed for the transportation of employees.

(7) The employer shall not permit employees to ride in dippers, shovel buckets, forks, clamshells, or in the beds of dump trucks, or on haulage equipment not specifically designed or adapted for the transportation of employees.

(8) Electrically powered mobile equipment shall not be left unattended unless the master switch is in the off position, all operating controls are in the neutral position, and the brakes are set, or other equivalent precautions are taken against rolling.

(9) When dumping cars by hand, the car dumps shall be provided with tie-down chains or bumper blocks to prevent cars from overturning.

(10) Rocker-bottom or bottom-dump cars shall be equipped with positive locking devices.

(11) Equipment which is to be hauled shall be so loaded and protected as to prevent sliding or spillage.

(12) Parked railcars shall be blocked securely.

(13) Berms, bumper blocks, safety hooks, or similar means shall be provided to prevent overtravel and overturning at dumping locations.

(14) Where necessary, bumper blocks, or the equivalent, shall be provided at all track dead ends.

(15) Supplies, materials, and tools, other than small handtools, shall not be transported with employees in man-trip cars.

(l) *Electrical equipment.* (1) Electrical equipment shall conform to the requirements of Subpart K of this part.

(2) Powerlines shall be well separated or insulated from water lines, telephone lines, and air lines.

(3) Oil-filled transformers shall not be used underground unless they are located in a fire-resistant enclosure and surrounded by a dike to contain the contents of the transformers in event of a rupture.

(m) *Hoisting.* (1) Hoisting machines, either powered or hand operated, shall be worm-geared or powered both ways. The design must be such that when the power is stopped, the load cannot move.

(2) Controls for powered hoists shall be of the deadman type with a non-locking switch or control.

(3) A device to shut off the power shall be installed ahead of the operating control.

(4) Hand-operated release mechanisms, which can permit the load to descend faster than the speed rating, shall not be used.

(5) Hoist machines with cast metal parts shall not be used.

(6) Every hoist shall be tested with twice the maximum load before being put into operation, and annually thereafter.

(7) All anchorages of hoists shall be inspected at the beginning of each shift.

(8) An enclosed covered metal cage shall be used to raise and lower persons in the shaft. The cage shall be designed with a safety factor of 4 and shall be load-tested prior to use. The exterior of the cage shall be free of projections or sharp corners. Only closed shackles shall be used in the cage rigging.

(9) If the cage is equipped with a door, a positive locking device shall be installed to prevent the door from opening accidentally while the cage is being lowered or raised while hoisting or lowering employees.

§ 1926.801 Caissons.

(a) Wherever, in caisson work in which compressed air is used, and the working chamber is less than 11 feet in length, and when such caissons are at any time suspended or hung while work is in progress so that the bottom of the excavation is more than 9 feet below the deck of the working chamber, a shield shall be erected therein for the protection of the employees.

(b) Shafts shall be subjected to a hydrostatic or air-pressure test, at which pressure they shall be tight. The shaft shall be stamped on the outside shell about 12 inches from each flange to show the pressure to which they have been subjected.

(c) Whenever a shaft is used, it shall be provided, where space permits, with a safe, proper, and suitable staircase for its entire length, including landing platforms, not more than 20 feet apart. Where this is impracticable, suitable ladders shall be installed with landing platforms located about 20 feet apart to break the climb.

(d) All caissons having a diameter or side greater than 10 feet shall be provided with a man lock and shaft for the exclusive use of employees.

(e) In addition to the gauge in the locks, an accurate gauge shall be maintained on the outer and inner side of each bulkhead. These gauges shall be accessible at all times and kept in accurate working order.

(f) In caisson operations where employees are exposed to compressed air working environments, the requirements contained in § 1926.803 shall be complied with.

§ 1926.802 Cofferdams.

(a) If overtopping of the cofferdam by high waters is possible, means shall be provided for controlled flooding of the work area.

(b) Warning signals for evacuation of employees in case of emergency shall be developed and posted.

(c) Cofferdam walkways, bridges, or ramps with at least two means of rapid exit shall be provided with guardrails as specified in Subpart M of this part.

(d) Cofferdams located close to navigable shipping channels shall be protected from vessels in transit, where possible.

§ 1926.803 Compressed air.

(a) *General provisions.* (1) There shall be present, at all times, at least one competent person designated by and representing the employer, who shall be familiar with this subpart in all respects, and responsible for full compliance with these and other applicable subparts.

(2) Every employee shall be instructed in the rules and regulations which concern his safety or the safety of others.

(b) *Medical attendance, examination, and regulations.* (1) There shall be retained one or more licensed physicians familiar with and experienced in the physical requirements and the medical aspects of compressed air work and the treatment of decompression illness. He shall be available at all times while work is in progress in order to provide medical supervision of employees employed in compressed air work. He shall himself be physically qualified and be willing to enter a pressurized environment.

(2) No employee shall be permitted to enter a compressed air environment until he has been examined by the physician and reported by him to be physically qualified to engage in such work.

(3) In the event an employee is absent from work for 10 days, or is absent due to sickness or injury, he shall not resume work until he is reexamined by the physician, and his physical condition reported, as provided in this paragraph, to be such as to permit him to work in compressed air.

(4) After an employee has been employed continuously in compressed air for a period designated by the physician, but not to exceed 1 year, he shall be reexamined by the physician to determine if he is still physically qualified to engage in compressed air work.

(5) Such physician shall at all times keep a complete and full record of examinations made by him. The physician shall also keep an accurate record of any decompression illness or other illness or injury incapacitating any employee for work, and of all loss of life that occurs in the operation of a tunnel, caisson, or other compartment in which compressed air is used.

(6) Records shall be available for the inspection of the Secretary or his representatives, and a copy thereof shall be forwarded to OSHA within 48 hours following the occurrence of the accident, death, injury, or decompression illness. It shall state as fully as possible the cause of said death or decompression illness, and the place where the injured or sick employee was taken, and such other relative information as may be required by the Secretary.

(7) A fully equipped first aid station shall be provided at each tunnel project regardless of the number of persons employed. An ambulance or transportation suitable for a litter case shall be at each project.

(8) Where tunnels are being excavated from portals more than 5 road miles apart, a first aid station and transportation facilities shall be provided at each portal.

(9) A medical lock shall be established and maintained in immediate working order whenever air pressure in the working chamber is increased above the normal atmosphere.

(10) The medical lock shall:

(i) Have at least 6 feet of clear headroom at the center, and be subdivided into not less than two compartments;

(ii) Be readily accessible to employees working under compressed air;

(iii) Be kept ready for immediate use for at least 5 hours subsequent to the emergence of any employee from the working chamber;

(iv) Be properly heated, lighted and ventilated;

(v) Be maintained in a sanitary condition;

(vi) Have a nonshatterable port through which the occupant(s) may be kept under constant observation;

(vii) Be designed for a working pressure of 75 p.s.i.g.;

(viii) Be equipped with internal controls which may be overridden by external controls;

(ix) Be provided with air pressure gauges to show the air pressure within each compartment to observers inside and outside the medical lock;

(x) Be equipped with a manual type sprinkler system that can be activated inside the lock or by the outside lock tender;

(xi) Be provided with oxygen lines and fittings leading into external tanks. The lines shall be fitted with check valves to prevent reverse flow.

The oxygen system inside the chamber shall be of a closed circuit design and be so designed as to automatically shut off the oxygen supply whenever the fire system is activated;

(xii) Be in constant charge of an attendant under the direct control of the retained physician. The attendant shall be trained in the use of the lock and suitably instructed regarding steps to be taken in the treatment of employee exhibiting symptoms compatible with a diagnosis of decompression illness;

(xiii) Be adjacent to an adequate emergency medical facility;

(xiv) The medical facility shall be equipped with demand-type oxygen inhalation equipment approved by the U.S. Bureau of Mines;

(xv) Be capable of being maintained at a temperature, in use, not to exceed 90° F. nor be less than 70° F.; and

(xvi) Be provided with sources of air, free of oil and carbon monoxide, for normal and emergency use, which are capable of raising the air pressure in the lock from 0 to 75 p.s.i.g. in 5 minutes.

(11) Identification badges shall be furnished to all employees, indicating that the wearer is a compressed air worker. A permanent record shall be kept of all identification badges issued. The badge shall give the employee's name, address of the medical lock, the telephone number of the licensed physician for the compressed air project, and contain instructions that in case of emergency of unknown or doubtful cause or illness, the wearer shall be rushed to the medical lock. The badge shall be worn at all times—off the job, as well as on the job.

(c) *Telephone and signal communication.* (1) Effective and reliable means of communication, such as bells, whistles, or telephones, shall be maintained, at all times between all the following locations:

(i) The working chamber face;

(ii) The working chamber side of the man lock near the door;

(iii) The interior of the man lock;

(iv) Lock attendant's station;

(v) The compressor plant;

(vi) The first-aid station;

(vii) The emergency lock (if one is required); and

(viii) The special decompression chamber (if one is required).

(d) *Signs and records.* (1) The time of decompression shall be posted in each man lock as follows:

TIME OF DECOMPRESSION FOR THIS LOCK

—— pounds to —— pounds in ——minutes.

—— pounds to —— pounds in —— minutes.

(Signed by) ——————(Superintendent)

This form shall be posted in the Man Lock at all times.

(2) Any code of signals used shall be conspicuously posted near workplace entrances and such other locations as may be necessary to bring them to the attention of all employees concerned.

(3) For each 8-hour shift, a record of employees employed under air pressure shall be kept by an employee who shall remain outside the lock near the entrance. This record shall show the period each employee spends in the air chamber and the time taken from decompression. A copy shall be submitted to the appointed physician after each shift.

(e) *Compression.* (1) Every employee going under air pressure for the first time shall be instructed on how to avoid excessive discomfort.

(2) During the compression of employees, the pressure shall not be increased to more than 3 p.s.i.g. within the first minute. The pressure shall be held at 3 p.s.i.g. and again at 7 p.s.i.g. sufficiently long to determine if any employees are experiencing discomfort.

(3) After the first minute the pressure shall be raised uniformly and at a rate not to exceed 10 p.s.i. per minute.

(4) If any employee complains of discomfort, the pressure shall be held to determine if the symptoms are relieved. If, after 5 minutes the discomfort does not disappear, the lock attendant shall gradually reduce the pressure until the employee signals that the discomfort has ceased. If he does not indicate that the discomfort has disappeared, the lock attendant shall reduce the pressure to atmospheric and the employee shall be released from the lock.

(5) No employee shall be subjected to pressure exceeding 50 pounds per square inch except in emergency.

(f) *Decompression.* (1) Decompression to normal condition shall be in accordance with the Decompression Tables in Exhibit A of this subpart.

(2) In the event it is necessary for an employee to be in compressed air more than once in a 24-hour period, the appointed physician shall be responsible for the establishment of methods and procedures of decompression applicable to repetitive exposures.

(3) If decanting is necessary, the appointed physician shall establish procedures before any employee is permitted to be decompressed by decanting methods. The period of time that the employees spend at atmospheric pressure between the decompression following the shift and recompression shall not exceed 5 minutes.

(g) *Man locks and special decompression chambers*—(1) *Man locks.* (i) Except in emergency, no employees employed in compressed air shall be permitted to pass from the working chamber to atmospheric pressure until after decompression, in accordance with the procedures in this subpart.

(ii) The lock attendant in charge of a man lock shall be under the direct supervision of the appointed physician. He shall be stationed at the lock controls on the free air side during the period of compression and decompression and shall remain at the lock control station whenever there are men in the working chamber or in the man lock.

(iii) Except where air pressure in the working chamber is below 12 p.s.i.g., each man lock shall be equipped with automatic controls which, through taped programs, cams, or similar aparatus, shall automatically regulate decompressions. It shall also be equipped with manual controls to permit the lock attendant to override the automatic mechanism in the event of an emergency, as provided in subdivision (viii) of this subparagraph.

(iv) A manual control, which can be used in the event of an emergency, shall be placed inside the man lock.

(v) A clock, thermometer, and continuous recording pressure gauge with a 4-hour graph shall be installed outside of each man lock and shall be changed prior to each shift's decompression. The chart shall be of sufficient size to register a legible record of variations in pressure within the man lock and shall be visible to the lock attendant. A copy of each graph shall be submitted to the appointed physician after each shift. In addition, a pressure gauge, clock, and thermometer shall also be installed in each man lock. Additional fittings shall be provided so that test gauges may be attached whenever necessary.

(vi) Except where air pressure is below 12 p.s.i.g. and there is no danger of rapid flooding, all caissons having a working area greater than 150 square feet, and each bulkhead in tunnels of 14 feet or more in diameter, or equivalent area, shall have at least two locks in perfect working condition, one of which shall be used exclusively as a man lock, the other, as a materials lock.

(vii) Where only a combination man-and-materials lock is required, this single lock shall be of sufficient capacity to hold the employees constituting two successive shifts.

(viii) Emergency locks shall be large enough to hold an entire heading shift and a limit maintained of 12 p.s.i.g. There shall be a chamber available for oxygen decompression therapy to 28 p.s.i.g.

(ix) The man lock shall be large enough so that those using it are not compelled to be in a cramped position, and shall not have less than 5 feet clear head room at the center and a minimum of 30 cubic feet of air space per occupant.

(x) Locks on caissons shall be so located that the bottom door shall be not less than 3 feet above the water level surrounding the caisson on the outside. (The water level, where it is affected by tides, is construed to mean high tide.)

(xi) In addition to the pressure gauge in the locks, an accurate pressure gauge shall be maintained on the outer and inner side of each bulkhead. These gauges shall be accessible at all times and shall be kept in accurate working order.

(xii) Man locks shall have an observation port at least 4 inches in diameter located in such a position that all occupants of the man lock may be observed from the working chamber and from the free air side of the lock.

(xiii) Adequate ventilation in the lock shall be provided.

(xiv) Man locks shall be maintained at a minimum temperature of 70° F.

(xv) When locks are not in use and employees are in the working chamber, lock doors shall be kept open to the working chamber, where practicable.

(xvi) Provision shall be made to allow for rescue parties to enter the tunnel if the working force is disabled.

(xvii) A special decompression chamber of sufficient size to accommodate the entire force of employees being decompressed at the end of a shift shall be provided whenever the regularly established working period requires a total time of decompression exceeding 75 minutes.

(2) *Special decompression chamber.* (i) The headroom in the special decompression chamber shall be not less than a minimum 7 feet and the cubical content shall provide at least 50 cubic feet of airspace for each employee. For each occupant, there shall be provided 4 square feet of free walking area and 3 square feet of seating space, exclusive of area required for lavatory and toilet facilities. The rated capacity shall be based on the stated minimum space per employee and shall be posted at the chamber entrance. The posted capacity shall not be exceeded, except in case of emergency.

(ii) Each special decompression chamber shall be equipped with the following:

(*a*) A clock or clocks suitably placed so that the attendant and the chamber occupants can readily ascertain the time;

(*b*) Pressure gauges which will indicate to the attendants and to the chamber occupants the pressure in the chamber;

(*c*) Valves to enable the attendant to control the supply and discharge of compressed air into and from the chamber;

(*d*) Valves and pipes, in connection with the air supply and exhaust, arranged so that the chamber pressure can be controlled from within and without;

(*e*) Effective means of oral intercommunication between the attendant, occupants of the chamber, and the air compressor plant; and

(*f*) An observation port at the entrance to permit observation of the chamber occupants.

(iii) Seating facilities in special decompression chambers shall be so arranged as to permit a normal sitting posture without cramping. Seating space, not less than 18 inches by 24 inches wide, shall be provided per occupant.

(iv) Adequate toilet and washing facilities, in a screened or enclosed recess, shall be provided. Toilet bowls shall have a built-in protector on the rim so that an air space is created when the seat lid is closed.

(v) Fresh and pure drinking water shall be available. This may be accomplished by either piping water into the special decompression chamber and providing drinking fountains, or by providing individual canteens, or by some other sanitary means. Community drinking vessels are prohibited.

(vi) No refuse or discarded material of any kind shall be permitted to accumulate, and the chamber shall be kept clean.

(vii) Unless the special decompression chamber is serving as the man lock to atmospheric pressure, the special decompression chamber shall be situated, where practicable, adjacent to the man lock on the atmospheric pressure side of the bulkhead. A passageway shall be provided, connecting the special chamber with the man lock, to permit employees in the process of decompression to move from the man lock to the special chamber without a reduction in the ambient pressure from that designated for the next stage of decompression. The passageway shall be so arranged as to not interfere with the normal operation of the man lock, nor with the release of the occupants of the special chamber to atmospheric pressure upon the completion of the decompression procedure.

(h) *Compressor plant and air supply.* (1) At all times there shall be a thoroughly experienced, competent, and reliable person on duty at the air control valves as a gauge tender who shall regulate the pressure in the working areas. During tunneling operations, one gauge tender may regulate the pressure in not more than two headings: *Provided,* That the gauge and controls are all in one location. In caisson work, there shall be a gauge tender for each caisson.

(2) The low air compressor plant shall be of sufficient capacity to not only permit the work to be done safely, but shall also provide a margin to meet emergencies and repairs.

(3) Low air compressor units shall have at least two independent and separate sources of power supply and each shall be capable of operating the entire low air plant and its accessory systems.

(4) The capacity, arrangement, and number of compressors shall be sufficient to maintain the necessary pressure without overloading the equipment and to assure maintenance of such pressure in the working chamber during periods of breakdown, repair, or emergency.

(5) Switching from one independent source of power supply to the other shall be done periodically to ensure the workability of the apparatus in an emergency.

(6) Duplicate low-pressure air feedlines and regulating valves shall be provided between the source of air supply and a point beyond the locks with one of the lines extending to within 100 feet of the working face.

(7) All high- and low-pressure air supply lines shall be equipped with check valves.

(8) Low-pressure air shall be regulated automatically. In addition, manually operated valves shall be provided for emergency conditions.

(9) The air intakes for all air compressors shall be located at a place where fumes, exhaust gases, and other air contaminants will be at a minimum.

(10) Gauges indicating the pressure in the working chamber shall be installed in the compressor building, the lock attendant's station, and at the employer's field office.

(i) *Ventilation and air quality.* (1) Exhaust valves and exhaust pipes shall be provided and operated so that the working chamber shall be well ventilated, and there shall be no pockets of dead air. Outlets may be required at intermediate points along the main low-pressure air supply line to the heading to eliminate such pockets of dead air. Ventilating air shall be not less than 30 cubic feet per minute.

(2) The air in the workplace shall be analyzed by the employer not less than once each shift, and records of such tests shall be kept on file at the place where the work is in progress. The test results shall be within the threshold limit values specified in Subpart D of this part, for hazardous gases, and within 10 percent of the lower explosive limit of flammable gases. If these limits are not met, immediate action to correct the situation shall be taken by the employer.

(3) The temperature of all working chambers which are subjected to air pressure shall, by means of after-coolers or other suitable devices, be maintained at a temperature not to exceed 85° F.

(4) Forced ventilation shall be provided during decompression. During the entire decompression period, forced ventilation through chemical or mechanical air purifying devices that will ensure a source of fresh air shall be provided.

(5) Whenever heat-producing machines (moles, shields) are used in compressed air tunnel operations, a positive means of removing the heat build-up at the heading shall be provided.

(j) *Electricity.* (1) All lighting in compressed-air chambers shall be by electricity exclusively, and two independent electric-lighting systems with independent sources of supply shall be used. The emergency source shall be arranged to become automatically operative in the event of failure of the regularly used source.

(2) The minimum intensity of light on any walkway, ladder, stairway, or working level shall be not less than 10 foot-candles, and in all workplaces the lighting shall at all times be such as to enable employees to see clearly.

(3) All electrical equipment, and wiring for light and power circuits, shall comply with requirements of the National Electrical Code, ANSI C1-1971 (Rev. of 1968) for use in damp, hazardous, high temperature, and compressed air environments.

(4) External parts of lighting fixtures and all other electrical equipment, when within 8 feet of the floor, shall be constructed of noncombustible, nonabsorptive, insulating materials, except that metal may be used if it is effectively grounded.

(5) Portable lamps shall be equipped with noncombustible, nonabsorptive, insulating sockets, approved handles, basket guards, and approved cords.

(6) The use of worn or defective portable and pendant conductors is prohibited.

(k) *Sanitation.* (1) Sanitary, heated, lighted, and ventilated dressing rooms and drying rooms shall be provided for all employees engaged in compressed air work. Such rooms shall contain suitable benches and lockers. Bathing accommodations (showers at the ratio of one to 10 employees per shift), equipped with running hot and cold water, and suitable and adequate toilet accommodations, shall be provided. One toilet for each 15 employees, or fractional part thereof, shall be provided.

(2) When the toilet bowl is shut by a cover, there should be an air space so that the bowl or bucket does not implode when pressure is increased.

(3) All parts of caissons and other working compartments shall be kept in a sanitary condition.

(l) *Fire prevention and protection.* (1) Firefighting equipment shall be available at all times and shall be maintained in working condition.

(2) While welding or flame-cutting is being done in compressed air, a firewatch with a fire hose or approved extinguisher shall stand by until such operation is completed.

(3) Shafts and caissons containing flammable material of any kind, either above or below ground, shall be provided with a waterline and a fire hose connected thereto, so arranged that all points of the shaft or caisson are within reach of the hose stream.

(4) Fire hose shall be at least 1½ inches in nominal diameter; the water pressure shall at all times be adequate for efficient operation of the type of nozzle used; and the water supply shall be such as to ensure an uninterrupted flow. Fire hose, when not in use, shall be located or guarded to prevent injury thereto.

(5) The power house, compressor house, and all buildings housing ventilating equipment, shall be provided with at least one hose connection in the water line, with a fire hose connected thereto. A fire hose shall be maintained within reach of structures of wood over or near shafts.

(6) Tunnels shall be provided with a 2-inch minimum diameter water line extending into the working chamber and to within 100 feet of the working face. Such line shall have hose outlets with 100 feet of fire hose attached and maintained as follows: One at the working face; one immediately inside of the bulkhead of the working chamber; and one immediately outside such bulkhead. In addition, hose outlets shall be provided at 200-foot intervals throughout the length of the tunnel, and 100 feet of fire hose shall be attached to the outlet nearest to any location where flammable material is being kept or stored or where any flame is being used.

(7) In addition to fire hose protection required by this subpart, on every floor of every building not under compressed air, but used in connection with the compressed air work, there shall be provided at least one approved fire extinguisher of the proper type for the hazard involved. At least two approved fire extinguishers shall be provided in the working chamber as follows: One at the working face and one immediately inside the bulkhead (pressure side). Extinguishers in the working chamber shall use water as the primary extinguishing agent and shall not use any extinguishing agent which could be harmful to the employees in the working chamber. The fire extinguisher shall be protected from damage.

(8) Highly combustible materials shall not be used or stored in the working chamber. Wood, paper, and similar combustible material shall not be used in the working chamber in quantities which could cause a fire hazard. The compressor building shall be constructed of non-combustible material.

(9) Man locks shall be equipped with a manual type fire extinguisher system that can be activated inside the man lock and also by the outside lock attendant. In addition, a fire hose and portable fire extinguisher shall be provided inside and outside the man lock. The portable fire extinguisher shall be the dry chemical type.

(10) Equipment, fixtures, and furniture in man locks and special decompression chambers shall be constructed of noncombustible materials. Bedding, etc., shall be chemically treated so as to be fire resistant.

(11) Head frames shall be constructed of structural steel or open framework fireproofed timber. Head houses and other temporary surface buildings or structures within 100 feet of the shaft, caisson, or tunnel opening shall be built of fire-resistant materials.

(12) No oil, gasoline, or other combustible material shall be stored within 100 feet of any shaft, caisson, or tunnel opening, except that oils may be stored in suitable tanks in isolated fireproof buildings, provided such buildings are not less than 50 feet from any shaft, caisson, or tunnel opening, or any building directly connected thereto.

(13) Positive means shall be taken to prevent leaking flammable liquids from flowing into the areas specifically mentioned in the preceding paragraph.

(14) All explosives used in connection with compressed air work shall be selected, stored, transported, and used as specified in Subpart U of this part.

(m) *Bulkheads and safety screens.* (1) Intermediate bulkheads with locks, or intermediate safety screens or both, are required where there is the danger of rapid flooding.

(2) In tunnels 16 feet or more in diameter, hanging walkways shall be provided from the face to the man lock as high in the tunnel as practicable, with at least 6 feet of head room. Walkways shall be constructed of noncombustible material. Standard railings shall be securely installed throughout the length of all walkways on open sides in accordance with Subpart M of this part. Where walkways are ramped under safety screens, the walkway surface shall be skidproofed by cleats or by equivalent means.

(3) Bulkheads used to contain compressed air shall be tested, where prac-

ticable, to prove their ability to resist the highest air pressure which may be expected to be used.

§ 1926.804 Definitions applicable to this subpart.

(a) "Bulkhead"—An airtight structure separating the working chamber from free air or from another chamber under a lesser pressure than the working pressure.

(b) "Caisson"—A wood, steel, concrete or reinforced concrete, air- and water-tight chamber in which it is possible for men to work under air pressure greater than atmospheric pressure to excavate material below water level.

(c) "Decanting"—A method used for decompressing under emergency circumstances. In this procedure, the employees are brought to atmospheric pressure with a very high gas tension in the tissues and then immediately recompressed in a second and separate chamber or lock.

(d) "Emergency locks"—A lock designed to hold and permit the quick passage of an entire shift of employees.

(e) "High air"—Air pressure used to supply power to pneumatic tools and devices.

(f) "Low air"—Air supplied to pressurize working chambers and locks.

(g) "Man lock"—A chamber through which men pass from one air pressure environment into another.

(h) "Materials lock"—A chamber through which materials and equipment pass from one air pressure environment into another.

(i) "Medical lock"—A special chamber in which employees are treated for decompression illness. It may also be used in preemployment physical examinations to determine the adaptability of the prospective employee to changes in pressure.

(j) "Normal condition"—One during which exposure to compressed air is limited to a single continuous working period followed by a single decompression in any given 24-hour period; the total time of exposure to compressed air during the single continuous working period is not interrupted by exposure to normal atmospheric pressure, and a second exposure to compressed air does not occur until at least 12 consecutive hours of exposure to normal atmospheric pressure has elapsed since the employee has been under pressure.

(k) "Pressure"—A force acting on a unit area. Usually shown as pounds per square inch. (p.s.i.)

(l) "Absolute pressure" (p.s.i.a.)—The sum of the atmospheric pressure and gauge pressure (p.s.i.g.).

(m) "Atmospheric pressure"—The pressure of air at sea level, usually 14.7 p.s.i.a. (1 atmosphere), or 0 p.s.i.g.

(n) "Gauge pressure" (p.s.i.g.)—Pressure measured by a gauge and indicating the pressure exceeding atmospheric.

(o) "Safety screen"—An air- and water-tight diaphragm placed across the upper part of a compressed air tunnel between the face and bulkhead, in order to prevent flooding the crown of the tunnel between the safety screen and the bulkhead, thus providing a safe means of refuge and exit from a flooding or flooded tunnel.

(p) "Special decompression chamber"—A chamber to provide greater comfort of employees when the total decompression time exceeds 75 minutes.

(q) "Working chamber"—The space or compartment under air pressure in which the work is being done.

EXHIBIT A—DECOMPRESSION TABLES

1. *Explanation.* The decompression tables are computed for working chamber pressures from 0 to 14 pounds, and from 14 to 50 pounds per square inch gauge inclusive by 2-pound increments and for exposure times for each pressure extending from one-half to over 8 hours inclusive. Decompressions will be conducted by two or more stages with a maximum of four stages, the latter for a working chamber pressure of 40 pounds per square inch gauge or over.

Stage 1 consists of a reduction in ambient pressure ranging from 10 to a maximum of 16 pounds per square inch, but in no instance will the pressure be reduced below 4 pounds at the end of stage 1. This reduction in pressure in stage 1 will always take place at a rate not greater than 5 pounds per minute.

Further reduction in pressure will take place during stage 2 and subsequent stages as required at a slower rate, but in no event at a rate greater than 1 pound per minute.

Decompression Table No. 1 indicates in the body of the table the total decompression time in minutes for various combinations of working chamber pressure and exposure time.

Decompression Table No. 2 indicates for the same various combinations of working chamber pressure and exposure time the following:

a. The number of stages required;

b. The reduction in pressure and the terminal pressure for each required stage;

c. The time in minutes through which the reduction in pressure is accomplished for each required stage;

d. The pressure reduction rate in minutes per pound for each required stage;

IMPORTANT NOTE: The Pressure Reduction in Each Stage is Accomplished at a Uniform Rate. Do Not Interpolate Between Values Shown on the Tables. Use the Next Higher Value of Working Chamber Pressure or Exposure Time Should the Actual Working Chamber Pressure or the Actual Exposure Time, Respectively, Fall Between Those for Which Calculated Values Are Shown in the Body of the Tables.

Examples:	Minutes
Example No. 1:	
4 hours working period at 20 pounds gauge.	
Decompression Table No. 1:	
20 pounds for 4 hours, total decompression time.	43
Decompression Table No. 2:	
Stage 1: Reduce pressure from 20 pounds to 4 pounds at the uniform rate of 5 pounds per minute.	
Elapsed time stage 1: 16/5	3
Stage 2 (final stage): Reduce pressure at a uniform rate from 4 pounds to 0-pound gage over a period of 40 minutes.	
Rate—0.10 pound per minute or 10 minutes per pound.	
Stage 2 (final) elapsed time.	40
Total time	43
Example No. 2:	
5-hour working period at 24 pounds gage.	
Decompression Table No. 1:	
24 pounds for 5 hours, total decompression time.	117
Decompression Table No. 2:	
Stage 1: Reduce pressure from 24 pounds to 8 pounds at the uniform rate of 5 pounds per minute.	
Elapsed time stage 1: 16/5	3
Stage 2: Reduce pressure at a uniform rate from 8 pounds to 4 pounds over a period of 4 minutes. Rate, 1 pound per minute elapsed time, stage 2	4
Transfer men to special decompression chamber maintaining the 4-pound pressure during the transfer operation.	
Stage 3 (final stage): In the special decompression chamber, reduce the pressure at a uniform rate from 4 pounds to 0-pound gage over a period of 110 minutes. Rate, 0.037 pound per minute or 27.5 minutes per pound. Stage 3 (final) elapsed time	110
Total time	117

DECOMPRESSION TABLE NO. 1—TOTAL DECOMPRESSION TIME

Work pressure	Working period hours										
p.s.i.g.	½	1	1½	2	3	4	5	6	7	8	Over 8
9-12	3	3	3	3	3	3	3	3	3	3	3
14	6	6	6	6	6	6	6	6	16	16	33
16	7	7	7	7	7	7	17	33	48	48	62
18	7	7	7	8	11	17	48	63	63	73	87
20	7	7	8	15	15	43	63	73	83	103	113
22	9	9	16	24	38	68	93	103	113	128	133
24	11	12	23	27	52	92	117	122	127	137	151
26	13	14	29	34	69	104	126	141	142	142	163
28	15	23	31	41	98	127	143	153	153	165	183
30	17	28	38	62	105	143	165	168	178	188	204
32	19	35	43	85	126	163	178	193	203	213	226
34	21	39	58	98	151	178	195	218	223	233	248
36	24	44	63	113	170	198	223	233	243	253	273
38	28	49	73	128	178	203	223	238	253	263	278
40	31	49	84	143	183	213	233	248	258	278	288

DECOMPRESSION TABLE NO. 1—TOTAL DECOMPRESSION TIME—Continued

Work pressure	Working period hours										
p.s.i.g.	½	1	1½	2	3	4	5	6	7	8	Over 8
42	37	56	102	144	189	215	245	260	263	268	293
44	43	64	118	154	199	234	254	264	269	269	293
46	44	74	139	171	214	244	269	274	289	299	318
48	51	89	144	189	229	269	299	309	319	319	
50	58	94	164	209	249	279	309	329			

DECOMPRESSION TABLE NO. 2

(Do not interpolate, use next higher value for conditions not computed.)

Working chamber pressure P.s.i.g.	Working period hours	Decompression data					
		Stage No	Pressure reduction P.s.i.g.		Time in stage minutes	Pressure reduction rate Min/pound	Total time decompress minutes
			From	To			
14	½	1	14	4	2	0.20	6
		2	4	0	4	1.00	6
	1	1	14	4	2	0.20	6
		2	4	0	4	1.00	6
	1½	1	14	4	2	0.20	6
		2	4	0	4	1.00	6
	2	1	14	4	2	0.20	6
		2	4	0	4	1.00	6
	3	1	14	4	2	0.20	6
		2	4	0	4	1.00	6
	4	1	14	0	2	0.20	6
		2	4	0	4	1.00	6
	5	1	14	4	2	0.20	6
		2	4	0	4	1.00	6
	6	1	14	4	2	0.20	
		2	4	0	4	1.00	6
	7	1	14	4	2	0.20	
		2	4	0	14	3.50	16
	8	1	14	4	2	0.20	
		2	4	0	14	3.50	16
	Over 8	1	14	4	2	0.20	
		2	4	0	30	7.50	32
16	½	1	16	4	3	0.20	
		2	4	0	4	1.00	7
	1	1	16	4	3	0.20	7
		2	4	0	4	1.00	7
	1½	1	16	4	3	0.20	
		2	4	0	4	1.00	7
	2	1	16	4	3	0.20	
		2	4	0	4	1.00	7
	3	1	16	4	3	0.20	
		2	4	0	4	1.00	7
	4	1	14	4	3	0.20	
		2	4	0	4	1.00	7
	5	1	14	4	3	0.20	7
		2	4	0	4	3.50	17
	6	1	14	4	3	0.20	
		2	4	0	30	7.50	33
	7	1	14	4	3	0.20	
		2	4	0	45	11.25	48
	8	1	14	4	3	0.20	
		2	4	0	45	11.25	48
	Over 8	1	14	4	3	0.20	
		2	4	0	60	15.00	63
18	½	1	18	4	3	0.20	
		2	4	0	4	1.00	7
	1	1	18	4	3	0.20	
		2	4	0	4	1.00	7
	1½	1	18	4	3	0.20	
		2	4	0	4	1.00	7
	2	1	18	4	3	0.20	
		2	4	0	5	1.25	8
	3	1	18	4	3	0.20	
		2	4	0	8	2.00	11
	4	1	18	4	3	0.20	
		2	4	0	14	3.50	17
	5	1	18	4	3	0.20	
		2	4	0	45	11.25	48
	6	1	18	4	3	0.20	
		2	4	0	60	15.00	63
	7	1	18	4	3	0.20	
		2	4	0	60	15.00	63
	8	1	18	4	3	0.20	
		2	4	0	70	17.50	73

DECOMPRESSION TABLE NO. 2—Continued

(Do not interpolate, use next higher value for conditions not computed.)

Working chamber pressure P.s.i.g.	Working period hours	Decompression data					
		Stage No	Pressure reduction P.s.i.g.		Time in stage minutes	Pressure reduction rate Min/pound	Total time decompress minutes
			From	To			
	Over 8	1	18	4	3	0.20	
		2	4	0	84	21.00	87
20	½	1	20	4	3	0.20	
		2	4	0	4	1.00	7
	1	1	20	4	3	0.20	
		2	4	0	4	1.00	7
	1½	1	20	4	3	0.20	
		2	4	0	5	1.25	8
	2	1	20	4	3	0.20	
		2	4	0	12	3.00	15
	3	1	20	4	3	0.20	
		2	4	0	12	3.00	15
	4	1	20	4	3	0.20	
		2	4	0	40	10.00	43
	5	1	20	4	3	0.20	
		2	4	0	60	15.00	63
	6	1	20	4	3	0.20	
		2	6	0	70	17.50	73
	7	1	20	4	3	0.20	
		2	4	0	80	20.00	83
	8	1	20	4	3	0.20	
		2	4	0	100	25.00	103
	Over 8	1	20	4	3	0.20	
		2	4	0	110	27.50	113
22	½	1	22	6	3	0.20	
		2	6	0	6	1.00	9
	1	1	22	6	3	0.20	
		2	6	0	6	1.00	9
	1½	1	22	6	3	0.20	
		2	6	0	13	2.20	16
	2	1	22	6	3	0.20	
		2	6	0	21	3.50	24
	3	1	22	6	3	0.20	
		2	6	0	35	5.85	38
	4	1	22	6	3	0.20	
		2	6	0	65	10.83	68
	5	1	22	6	3	0.20	
		2	6	0	90	15.00	93
	6	1	22	6	3	0.20	
		2	6	0	100	16.67	103
	7	1	22	6	3	0.20	
		2	6	0	110	18.35	113
	8	1	22	6	3	0.20	
		2	6	0	125	20.80	128
	Over 8	1	22	6	3	0.20	
		2	6	0	130	21.70	
24	½	1	24	8	3	0.20	
		2	8	4	4	1.00	
		3	4	0	4	1.00	11
	1	1	24	8	3	0.20	
		2	8	4	4	1.00	
		3	4	0	5	1.25	12
	1½	1	24	8	3	0.20	
		2	8	4	4	1.00	
		3	4	0	16	4.00	23
	2	1	24	8	3	0.20	
		2	8	4	4	1.00	
		3	4	0	20	5.00	27
	3	1	24	8	3	0.20	
		2	8	4	4	1.00	
		3	4	0	45	11.25	52
	4	1	24	8	3	0.20	
		2	8	4	4	1.00	
		3	4	0	85	21.25	92
	5	1	24	8	3	0.20	
		2	8	4	4	1.00	
		3	4	0	110	27.50	117
	6	1	24	8	3	0.20	
		2	8	4	4	1.00	
		3	4	0	115	28.80	122
	7	1	24	8	3	0.20	
		2	8	4	4	1.00	
		3	4	0	120	30.00	127
	8	1	24	8	3	0.20	
		2	8	4	4	1.00	
		3	4	0	130	32.50	137
	Over 8	1	24	8	3	0.20	
		2	8	4	8	2.00	
		3	4	0	140	35.00	151

DECOMPRESSION TABLE No. 2—Continued

(Do not interpolate, use next higher value for conditions not computed.)

Working chamber pressure P.s.i.g.	Working period hours	Decompression data					
		Stage No	Pressure reduction P.s.i.g.		Time in stage minutes	Pressure reduction rate Min/pound	Total time decompress minutes
			From	To			
26	½	1	26	10	3	0.20	
		2	10	4	6	1.00	
		3	4	0	4	1.00	13
	1	1	26	10	3	0.20	
		2	10	4	6	1.00	
		3	4	0	5	1.25	14
	1½	1	26	10	3	0.20	
		2	10	4	6	1.00	
		3	4	0	20	5.00	29
	2	1	26	10	3	0.20	
		2	10	4	6	1.00	
		3	4	0	25	6.25	34
	3	1	26	10	3	0.20	
		2	10	4	6	1.00	
		3	4	0	60	15.00	69
	4	1	26	10	3	0.20	
		2	10	4	6	1.00	
		3	4	0	95	23.75	104
	5	1	26	10	3	0.20	
		2	10	4	8	1.33	
		3	4	0	115	28.80	126
	6	1	26	10	3	0.20	
		2	10	4	8	1.33	
		3	4	0	130	32.50	141
	7	1	26	10	3	2.20	
		2	10	4	9	1.50	
		3	4	0	130	32.50	142
	8	1	26	10	3	0.20	
		2	10	4	9	1.50	
		3	4	0	130	32.50	142
	Over 8	1	26	10	3	0.20	
		2	10	4	30	5.00	
		3	4	0	130	32.50	163
28	½	1	28	12	3	0.20	
		2	12	4	8	1.00	
		3	4	0	4	1.00	15
	1	1	28	12	3	0.20	
		2	12	4	8	1.00	
		3	4	0	12	3.00	23
	1½	1	28	12	3	0.20	
		2	12	4	8	1.00	
		3	4	0	20	5.00	31
	2	1	28	12	3	0.20	
		2	12	4	8	1.00	
		3	4	0	30	7.50	41
	3	1	28	12	3	0.20	
		2	12	4	10	1.25	
		3	4	0	85	21.20	98
	4	1	28	12	3	0.20	
		2	12	4	14	1.75	
		3	4	0	110	27.50	127
	5	1	28	12	3	0.20	
		2	12	4	20	2.50	
		3	4	0	120	30.00	143
	6	1	28	12	3	0.20	
		2	12	4	20	2.50	
		3	4	0	130	32.50	153
	7	1	28	12	3	0.20	
		2	12	4	20	2.50	
		3	4	0	120	32.50	153
	8	1	28	12	3	0.20	
		2	12	4	32	4.00	
		3	4	0	130	32.50	165
	Over 8	1	28	12	3	0.20	
		2	12	4	50	6.25	
		3	4	0	130	32.50	183
30	½	1	30	14	3	0.20	
		2	14	4	10	1.00	
		3	4	0	4	1.00	17
	1	1	30	14	3	0.20	
		2	14	4	10	1.00	
		3	4	0	15	3.75	28
	1½	1	30	14	3	0.20	
		2	14	4	10	1.00	
		3	4	0	25	6.25	38
	2	1	30	14	3	0.20	
		2	14	4	14	1.40	
		3	4	0	45	11.25	62
	3	1	30	14	3	0.20	

DECOMPRESSION TABLE No. 2—Continued

(Do not interpolate, use next higher value for conditions not computed.)

		Decompression data					
Working chamber pressure P.s.i.g.	Working period hours	Stage No	Pressure reduction P.s.i.g.		Time in stage minutes	Pressure reduction rate Min/pound	Total time decompress minutes
			From	To			
		2	14	4	17	1.70	
		3	4	0	85	21.20	105
	4	1	30	14	3	0.20	
		2	14	4	30	3.00	
		3	4	0	110	27.50	143
	5	1	30	14	3	0.20	
		2	14	4	35	3.50	
		3	4	0	130	32.50	165
	6	1	30	14	3	0.20	
		2	14	4	35	3.50	
		3	4	0	130	32.50	168
	7	1	30	14	3	0.20	
		2	14	4	45	4.50	
		3	4	0	130	32.50	178
	8	1	30	14	3	0.20	
		2	14	4	55	5.50	
		3	4	0	130	32.50	188
	Over 8	1	30	14	3	0.20	
		2	14	4	71	7.10	
		3	4	0	130	32.50	204
32	½	1	32	16	3	0.20	
		2	16	4	12	1.00	
		3	4	0	4	1.00	19
	1	1	32	16	3	0.20	
		2	16	4	12	1.00	
		3	4	0	20	5.00	35
	1½	1	32	16	3	0.20	
		2	16	4	15	1.25	
		3	4	0	25	6.25	43
	2	1	32	16	3	0.20	
		2	16	4	22	1.83	
		3	4	0	60	15.00	85
	3	1	32	16	3	0.20	
		2	16	4	28	2.33	
		3	4	0	95	23.75	126
	4	1	32	16	3	0.20	
		2	16	4	40	3.33	
		3	4	0	120	30.00	163
	5	1	32	16	3	0.20	
		2	16	4	45	3.75	
		3	4	0	130	32.50	178
	6	1	32	16	3	0.20	
		2	16	4	60	5.00	
		3	4	0	130	32.50	193
	7	1	32	16	3	0.20	
		2	16	4	70	5.83	
		3	4	0	130	32.50	203
	8	1	32	16	3	0.20	
		2	16	4	80	6.67	
		3	4	0	130	32.50	213
	Over 8	1	32	16	3	0.20	
		2	16	4	93	7.75	
		3	4	0	130	32.50	226
34	½	1	34	18	3	0.20	
		2	18	4	14	1.00	
		3	4	0	4	1.00	21
	1	1	34	18	3	0.20	
		2	18	4	14	1.00	
		3	4	0	22	5.50	39
	1½	1	34	18	3	0.20	
		2	18	4	25	1.80	
		3	4	0	30	7.50	58
	2	1	34	18	3	0.20	
		2	18	4	35	2.50	
		3	4	0	60	15.00	98
	3	1	34	18	3	0.20	
		2	18	4	43	3.10	
		3	4	0	105	26.25	151
	4	1	34	18	3	0.20	
		2	18	4	55	3.93	
		3	4	0	120	30.00	178
	5	1	34	18	3	0.20	
		2	18	4	62	4.43	
		3	4	0	130	32.50	195
	6	1	34	18	3	0.20	
		2	18	4	85	6.07	
		3	4	0	130	32.50	218
	7	1	34	18	3	0.20	
		2	18	4	90	6.43	

DECOMPRESSION TABLE No. 2—Continued

(Do not interpolate, use next higher value for conditions not computed.)

Working chamber pressure P.s.i.g.	Working period hours	Stage No	Decompression data				
			Pressure reduction P.s.i.g.		Time in stage minutes	Pressure reduction rate Min/pound	Total time decompress minutes
			From	To			
		3	4	0	130	32.50	223
	8	1	34	18	3	0.20	
		2	18	4	100	7.15	
		3	4	0	130	32.50	233
	Over 8	1	34	18	3	0.20	
		2	18	4	115	8.23	
		3	4	0	130	32.50	248
36	½	1	36	20	3	0.20	
		2	20	4	16	1.00	
		3	4	0	5	1.25	24
	1	1	36	20	3	0.20	
		2	20	4	16	1.00	
		3	4	0	25	6.25	44
	1½	1	36	20	3	0.20	
		2	20	4	30	1.88	
		3	4	0	30	7.50	63
	2	1	36	20	3	0.20	
		2	20	4	40	2.50	
		3	4	0	70	17.50	113
	3	1	36	20	3	0.20	
		2	20	4	52	3.25	
		3	4	0	115	28.75	170
	4	1	36	20	3	0.20	
		2	20	4	65	4.06	
		3	4	0	130	32.50	198
	5	1	36	20	3	0.20	
		2	20	4	90	5.63	
		3	4	0	130	32.50	223
	6	1	36	20	3	0.20	
		2	20	4	100	6.25	
		3	4	0	130	32.50	233
	7	1	36	20	3	0.20	
		2	20	4	110	6.88	
		3	4	0	130	32.50	243
	8	1	36	20	3	0.20	
		2	20	4	120	7.50	
		3	4	0	130	32.50	253
	Over 8	1	36	20	3	0.20	
		2	20	4	140	8.75	
		3	4	0	130	32.50	273
38	½	1	38	22	3	0.20	
		2	22	6	16	1.00	
		3	6	0	9	1.50	28
	1	1	38	22	3	0.20	
		2	22	6	16	1.00	
		3	6	0	30	5.00	49
	1½	1	38	22	3	0.20	
		2	22	6	20	1.25	
		3	6	0	50	8.34	73
	2	1	38	22	3	0.20	
		2	22	6	30	1.88	
		3	6	0	95	15.83	128
	3	1	38	22	3	0.20	
		2	22	6	35	2.19	
		3	6	0	140	23.35	178
	4	1	38	22	3	0.20	
		2	22	6	50	3.12	
		3	6	0	150	25.00	203
	5	1	38	22	3	0.20	
		2	22	6	55	3.44	
		3	6	0	165	27.50	223
	6	1	38	22	3	0.20	
		2	22	6	70	4.38	
		3	6	0	165	27.50	238
	7	1	38	22	3	0.20	
		2	22	6	85	5.32	
		3	6	0	165	27.50	253
	8	1	38	22	3	0.20	
		2	22	6	95	5.93	
		3	6	0	165	27.50	263
	Over 8	1	38	22	3	0.20	
		2	22	6	110	6.88	
		3	6	0	165	27.50	278
40	½	1	40	24	3	0.20	
		2	24	8	16	1.00	
		3	8	4	4	1.00	
		4	4	0	8	2.00	31
	1	1	40	24	3	0.20	
		2	24	8	16	1.00	

DECOMPRESSION TABLE NO. 2—Continued

(Do not interpolate, use next higher value for conditions not computed.)

Working chamber pressure P.s.i.g.	Working period hours	Decompression data					
		Stage No	Pressure reduction P.s.i.g.		Time in stage minutes	Pressure reduction rate Min/pound	Total time decompress minutes
			From	To			
		3	8	4	5	1.25	
		4	4	0	25	6.25	49
	1½	1	40	24	3	0.20	
		2	24	8	16	1.00	
		3	8	4	20	5.00	
		4	4	0	45	11.25	84
	2	2	40	24	3	0.20	
		1	24	8	25	1.56	
		3	8	4	20	5.00	
		4	4	0	95	23.75	143
	3	1	40	24	3	0.20	
		2	24	8	30	1.88	
		3	8	4	30	7.50	
		4	4	0	120	30.00	183
	4	1	40	24	3	0.20	
		2	24	8	45	2.81	
		3	8	4	35	8.75	
		4	4	0	130	32.50	213
	5	1	40	24	3	0.20	
		2	24	8	47	2.94	
		3	8	4	53	13.25	
		4	4	0	130	32.50	233
	6	1	40	24	3	0.20	
		2	24	8	55	3.44	
		3	8	4	60	15.00	
		4	4	0	130	32.50	248
	7	1	40	24	3	0.20	
		2	24	8	65	4.06	
		3	8	4	60	15.00	
		4	4	0	130	32.50	258
	8	1	40	24	3	0.20	
		2	24	8	75	4.70	
		3	8	4	60	15.00	
		4	4	0	130	32.50	268
	Over 8	1	40	24	3	0.20	
		2	24	8	95	5.93	
		3	8	4	60	15.00	
		4	4	0	130	32.50	288
42	½	1	42	26	3	0.20	
		2	26	10	16	1.00	
		3	10	4	6	1.00	
		4	4	0	12	3.00	37
	1	1	42	26	3	0.20	
		2	26	10	16	1.00	
		3	10	4	12	2.00	
		4	4	0	25	6.25	56
	1½	1	42	26	3	0.20	
		2	26	10	16	1.00	
		3	10	4	23	3.83	
		4	4	0	60	15.00	102
	2	1	42	26	3	0.20	
		2	26	10	16	1.00	
		3	10	4	30	5.00	
		4	4	0	95	23.75	144
	3	1	42	26	3	0.20	
		2	26	10	16	1.00	
		3	10	4	50	8.34	
		4	4	0	120	30.00	189
	4	1	42	26	3	0.20	
		2	26	10	17	1.06	
		3	10	4	65	10.83	
		4	4	0	130	32.50	215
	5	1	42	26	3	0.20	
		2	26	10	27	1.69	
		3	10	4	85	14.18	
		4	4	0	130	32.50	245
	6	1	42	26	3	0.20	
		2	26	10	27	1.69	
		3	10	4	100	16.67	
		4	4	0	130	32.50	260
	7	1	42	26	3	0.20	
		2	26	10	30	1.88	
		3	10	4	100	16.67	
		4	4	0	130	32.50	263
	8	1	42	26	3	0.20	
		2	26	10	35	2.19	
		3	10	4	100	16.67	
		4	4	0	130	32.50	268
	Over 8	1	42	26	3	0.20	
		2	26	10	60	3.75	

DECOMPRESSION TABLE NO. 2—Continued

(Do not interpolate, use next higher value for conditions not computed.)

Working chamber pressure P.s.i.g.	Working period hours	Decompression data					
		Stage No	Pressure reduction P.s.i.g.		Time in stage minutes	Pressure reduction rate Min/pound	Total time decompress minutes
			From	To			
		3	10	4	100	16.67	
		4	4	0	130	32.50	293
44	½	1	44	28	3	0.20	
		2	28	12	16	1.00	
		3	12	4	8	1.00	
		4	4	0	16	4.00	43
	1	1	44	28	3	0.20	
		2	28	12	16	1.00	
		3	12	4	20	2.50	
		4	4	0	25	6.25	64
	1½	1	44	28	3	0.20	
		2	28	12	16	1.00	
		3	12	4	27	3.38	
		4	4	0	72	18.00	118
	2	1	44	28	3	0.20	
		2	28	12	16	1.00	
		3	12	4	40	5.00	
		4	4	0	95	23.75	154
	3	1	44	28	3	0.20	
		2	28	12	16	1.00	
		3	12	4	60	7.50	
		4	4	0	120	30.00	199
	4	1	44	28	3	0.20	
		2	28	12	16	1.00	
		3	12	4	85	10.62	
		4	4	0	130	32.50	234
	5	1	44	28	3	0.20	
		2	28	12	16	1.00	
		3	12	4	105	13.13	
		4	4	0	130	32.50	254
	6	1	44	28	3	0.20	
		2	28	12	16	1.00	
		3	12	4	115	14.38	
		4	4	0	130	32.50	264
	7	1	44	28	3	0.20	
		2	28	12	16	1.00	
		3	12	4	120	15.00	
		4	4	0	130	32.50	269
	8	1	44	28	3	0.20	
		2	28	12	16	1.00	
		3	12	4	120	15.00	
		4	4	0	130	32.50	269
	Over 8	1	44	28	3	0.20	
		2	28	12	40	2.50	
		3	12	4	120	15.00	
		4	4	0	130	32.50	293
46	½	1	46	30	3	0.20	
		2	30	14	16	1.00	
		3	14	4	10	1.00	
		4	4	0	15	3.75	44
	1	1	46	30	3	0.20	
		2	30	14	16	1.00	
		3	14	4	25	2.50	
		4	4	0	30	7.50	74
	1½	1	46	30	3	0.20	
		2	30	14	16	1.00	
		3	14	4	35	3.50	
		4	4	0	85	21.20	139
	2	1	46	30	3	0.20	
		2	30	14	16	1.00	
		3	14	4	47	4.70	
		4	4	0	105	26.25	171
	3	1	46	30	3	0.20	
		2	30	14	16	1.00	
		3	14	4	65	6.50	
		4	4	0	130	32.50	214
	4	1	46	30	3	0.20	
		2	30	14	16	1.00	
		3	14	4	95	9.50	
		4	4	0	130	32.50	244
	5	1	46	30	3	0.20	
		2	30	14	16	1.00	
		3	14	4	120	12.00	
		4	4	0	130	32.50	269
	6	1	46	30	3	0.20	
		2	30	14	16	1.00	
		3	14	4	125	12.50	
		4	4	0	130	32.50	274
	7	1	46	30	3	0.20	
		2	30	14	16	1.00	
		3	14	4	140	14.00	

Decompression Table No. 2—Continued

(Do not interpolate, use next higher value for conditions not computed.)

Working chamber pressure P.s.i.g.	Working period hours	Decompression data					
		Stage No	Pressure reduction P.s.i.g.		Time in stage minutes	Pressure reduction rate Min/pound	Total time decompress minutes
			From	To			
		4	4	0	130	32.50	289
	8	1	46	30	3	0.20	
		2	30	14	16	1.00	
		3	14	4	150	15.00	
		4	4	0	130	32.50	299
	Over 8	1	46	30	3	0.20	
		2	30	14	25	1.56	
		3	14	4	160	16.00	
		4	4	0	130	32.50	318
48	½	1	48	32	3	0.20	
		2	32	16	16	1.00	
		3	16	4	12	1.00	
		4	4	0	20	5.00	51
	1	1	48	32	3	0.20	
		2	32	16	16	1.00	
		3	16	4	35	2.92	
		4	4	0	35	8.75	89
	1½	1	48	32	3	0.20	
		2	32	16	16	1.00	
		3	16	4	45	3.75	
		4	4	0	80	20.00	144
	2	1	48	32	3	0.20	
		2	32	16	16	1.00	
		3	16	4	60	5.00	
		4	4	0	110	27.50	189
	3	1	48	32	3	0.20	
		2	32	16	16	1.00	
		3	16	4	90	7.50	
		4	4	0	120	30.00	229
	4	1	48	32	3	0.20	
		2	32	16	16	1.00	
		3	16	4	120	10.00	
		4	4	0	130	32.50	269
	5	1	48	32	3	0.20	
		2	32	16	16	1.00	
		3	16	4	140	11.67	
		4	4	0	130	32.50	299
	6	1	48	32	3	0.20	
		2	32	16	16	1.00	
		3	16	4	160	13.33	
		4	4	0	130	32.50	309
	7	1	48	32	3	0.20	
		2	32	16	16	1.00	
		3	16	4	170	14.17	
		4	4	0	130	32.50	319
	8	1	48	32	3	0.20	
		2	32	16	16	1.00	
		3	16	4	170	14.17	
		4	4	0	130	32.50	319
50	½	1	50	34	3	0.20	
		2	34	18	16	1.00	
		3	18	4	14	1.00	
		4	4	0	25	6.25	58
	1	1	50	34	3	0.20	
		2	34	18	16	1.00	
		3	18	4	40	2.86	
		4	4	0	35	8.75	94
	1½	1	50	34	3	0.20	
		2	34	18	16	1.00	
		3	18	4	55	3.93	
		4	4	0	90	22.50	164

DECOMPRESSION TABLE NO. 2—Continued

(Do not interpolate, use next higher value for conditions not computed.)

Working chamber pressure P.s.i.g.	Working period hours	Stage No	Decompression data				
			Pressure reduction P.s.i.g. From	Pressure reduction P.s.i.g. To	Time in stage minutes	Pressure reduction rate Min/pound	Total time decompress minutes
	2	1	50	34	3	0.20	
		2	34	18	16	1.00	
		3	18	4	70	5.00	
		4	4	0	120	30.00	209
	3	1	50	34	3	0.20	
		2	34	18	16	1.00	
		3	18	4	100	7.15	
		4	4	0	130	32.50	249
	4	1	50	34	3	0.20	
		2	34	18	16	1.00	
		3	18	4	130	8.58	
		4	4	0	130	32.50	279
	5	1	50	34	3	0.20	
		2	34	18	16	1.00	
		3	18	4	160	11.42	
		4	4	0	130	32.50	309
	6	1	50	34	3	0.20	
		2	34	18	16	1.00	
		3	18	4	180	12.85	
		4	4	0	130	32.50	329

Subpart T—Demolition

Sec.
1926.850 Preparatory operations.
1926.851 Stairs, passageways, and ladders.
1926.852 Chutes.
1926.853 Removal of materials through floor openings.
1926.854 Removal of walls, masonry sections, and chimneys.
1926.855 Manual removal of floors.
1926.856 Removal of walls, floors, and material with equipment.
1926.857 Storage.
1926.858 Removal of steel construction.
1926.859 Mechanical demolition.
1926.860 Selective demolition by explosives.

§ 1926.850 Preparatory operations.

(a) Prior to permitting employees to start demolition operations, an engineering survey shall be made, by a competent person, of the structure to determine the condition of the framing, floors, and walls, and possibility of unplanned collapse of any portion of the structure. Any adjacent structure where employees may be exposed shall also be similarly checked. The employer shall have in writing evidence that such a survey has been performed.

(b) When employees are required to work within a structure to be demolished which has been damaged by fire, flood, explosion, or other cause, the walls or floor shall be shored or braced.

(c) All electric, gas, water, steam, sewer, and other service lines shall be shut off, capped, or otherwise controlled, outside the building line before demolition work is started. In each case, any utility company which is involved shall be notified in advance.

(d) If it is necessary to maintain any power, water or other utilities during demolition, such lines shall be temporarily relocated, as necessary, and protected.

(e) It shall also be determined if any type of hazardous chemicals, gases, explosives, flammable materials, or similarly dangerous substances have been used in any pipes, tanks, or other equipment on the property. When the presence of any such substances is apparent or suspected, testing and purging shall be performed and the hazard eliminated before demolition is started.

(f) Where a hazard exists from fragmentation of glass, such hazards shall be removed.

(g) Where a hazard exists to employees falling through wall openings, the opening shall be protected to a height of approximately 42 inches.

(h) When debris is dropped through holes in the floor without the use of chutes, the area onto which the material is dropped shall be completely enclosed with barricades not less than 42 inches high and not less than 6 feet back from the projected edge of the opening above. Signs, warning of the hazard of falling materials, shall be posted at each level. Removal shall not be permitted in this lower area until debris handling ceases above.

(i) All floor openings, not used as material drops, shall be covered over with material substantial enough to support the weight of any load which may be imposed. Such material shall be properly secured to prevent its accidental movement.

(j) Except for the cutting of holes in floors for chutes, holes through which to drop materials, preparation of storage space, and similar necessary preparatory work, the demolition of exterior walls and floor construction shall begin at the top of the structure and proceed downward. Each story of exterior wall and floor construction shall be removed and dropped into the storage space before commencing the removal of exterior walls and floors in the story next below.

(k) Employee entrances to multistory structures being demolished shall be completely protected by sidewalk sheds or canopies, or both, providing protection from the face of the building for a minimum of 8 feet. All such canopies shall be at least 2 feet wider than the building entrances or openings (1 foot wider on each side thereof), and shall be capable of sustaining a load of 150 pounds per square foot.

§ 1926.851 Stairs, passageways, and ladders.

(a) Only those stairways, passageways, and ladders, designated as means of access to the structure of a building, shall be used. Other access ways shall be entirely closed at all times.

(b) All stairs, passageways, ladders and incidental equipment thereto, which are covered by this section, shall be periodically inspected and maintained in a clean safe condition.

(c) In a multistory building, when a stairwell is being used, it shall be properly illuminated by either natural or artificial means, and completely and substantially covered over at a point not less than two floors below the floor on which work is being performed, and access to the floor where the work is in progress shall be through a properly lighted, protected, and separate passageway.

§ 1926.852 Chutes.

(a) No material shall be dropped to any point lying outside the exterior walls of the structure unless the area is effectively protected.

(b) All materials chutes, or sections thereof, at an angle of more than 45° from the horizontal, shall be entirely enclosed, except for openings equipped with closures at or about floor level for the insertion of materials. The openings shall not exceed 48 inches in height measured along the wall of the chute. At all stories below the top floor, such openings shall be kept closed when not in use.

(c) A substantial gate shall be installed in each chute at or near the discharge end. A competent employee shall be assigned to control the operation of the gate, and the backing and loading of trucks.

(d) When operations are not in progress, the area surrounding the discharge end of a chute shall be securely closed off.

(e) Any chute opening, into which workmen dump debris, shall be protected by a substantial guardrail approximately 42 inches above the floor or other surface on which the men stand to dump the material. Any space between the chute and the edge of openings in the floors through which it passes shall be solidly covered over.

(f) Where the material is dumped from mechanical equipment or wheelbarrows, a securely attached toeboard or bumper, not less than 4 inches thick and 6 inches high, shall be provided at each chute opening.

(g) Chutes shall be designed and constructed of such strength as to eliminate failure due to impact of materials or debris loaded therein.

§ 1926.853 Removal of materials through floor openings.

Any openings cut in a floor for the disposal of materials shall be no larger in size than 25 percent of the aggregate of the total floor area, unless the lateral supports of the removed flooring remain in place. Floors weakened or otherwise made unsafe by demolition operations shall be shored to carry safely the intended imposed load from demolition operations.

§ 1926.854 Removal of walls, masonry sections, and chimneys.

(a) Masonry walls, or other sections of masonry, shall not be permitted to fall upon the floors of the building in such masses as to exceed the safe carrying capacities of the floors.

(b) No wall section, which is more than one story in height, shall be permitted to stand alone without lateral bracing, unless such wall was originally designed and constructed to stand without such lateral support, and is in a condition safe enough to be self-supporting. All walls shall be left in a stable condition at the end of each shift.

(c) Employees shall not be permitted to work on the top of a wall when weather conditions constitute a hazard.

(d) Structural or load-supporting members on any floor shall not be cut or removed until all stories above such a floor have been demolished and removed. This provision shall not prohibit the cutting of floor beams for the disposal of materials or for the installation of equipment, provided that the requirements of §§ 1926.853 and 1926.855 are met.

(e) Floor openings within 10 feet of any wall being demolished shall be planked solid, except when employees are kept out of the area below.

(f) In buildings of "skeleton-steel" construction, the steel framing may be left in place during the demolition of masonry. Where this is done, all steel beams, girders, and similar structural supports shall be cleared of all loose material as the masonry demolition progresses downward.

(g) Walkways or ladders shall be provided to enable employees to safely reach or leave any scaffold or wall.

(h) Walls, which serve as retaining walls to support earth or adjoining structures, shall not be demolished until such earth has been properly braced or adjoining structures have been properly underpinned.

(i) Walls, which are to serve as retaining walls against which debris will be piled, shall not be so used unless capable of safely supporting the imposed load.

§ 1926.855 Manual removal of floors.

(a) Openings cut in a floor shall extend the full span of the arch between supports.

(b) Before demolishing any floor arch, debris and other material shall be removed from such arch and other adjacent floor area. Planks not less than 2 inches by 10 inches in cross section, full size undressed, shall be provided for, and shall be used by employees to stand on while breaking down floor arches between beams. Such planks shall be so located as to provide a safe support for the workmen should the arch between the beams collapse. The open space between planks shall not exceed 16 inches.

(c) Safe walkways, not less than 18 inches wide, formed of planks not less than 2 inches thick if wood, or of equivalent strength if metal, shall be provided and used by workmen when necessary to enable them to reach any point without walking upon exposed beams.

(d) Stringers of ample strength shall be installed to support the flooring planks, and the ends of such stringers shall be supported by floor beams or girders, and not by floor arches alone.

(e) Planks shall be laid together over solid bearings with the ends overlapping at least 1 foot.

(f) When floor arches are being removed, employees shall not be allowed in the area directly underneath, and such an area shall be barricaded to prevent access to it.

(g) Demolition of floor arches shall not be started until they, and the surrounding floor area for a distance of 20 feet, have been cleared of debris and any other unnecessary materials.

§ 1926.856 Removal of walls, floors, and material with equipment.

(a) Mechanical equipment shall not be used on floors or working surfaces unless such floors or surfaces are of sufficient strength to support the imposed load.

(b) Floor openings shall have curbs or stop-logs to prevent equipment from running over the edge.

(c) Mechanical equipment used shall meet the requirements specified in Subparts N and O of this part.

§ 1926.857 Storage.

(a) The storage of waste material and debris on any floor shall not exceed the allowable floor loads.

(b) In buildings having wooden floor construction, the flooring boards may be removed from not more than one floor above grade to provide storage space for debris, provided falling material is not permitted to endanger the stability of the structure.

(c) When wood floor beams serve to brace interior walls or free-standing exterior walls, such beams shall be left in place until other equivalent support can be installed to replace them.

(d) Floor arches, to an elevation of not more than 25 feet above grade, may be removed to provide storage area for debris: *Provided*, That such removal does not endanger the stability of the structure.

(e) Storage space into which material is dumped shall be blocked off, except for openings necessary for the removal of material. Such openings shall be kept closed at all times when material is not being removed.

§ 1926.858 Removal of steel construction.

(a) When floor arches have been removed, planking in accordance with § 1926.855(b) shall be provided for the workers engaged in razing the steel framing.

(b) Cranes, derricks, and other hoisting equipment used shall meet the requirements specified in Subpart N of this part.

(c) Steel construction shall be dismantled column length by column length, and tier by tier (columns may be in two-story lengths)..

(d) Any structural member being dismembered shall not be overstressed.

§ 1926.859 Mechanical demolition.

(a) No workers shall be permitted in any area, which can be adversely affected by demolition operations, when balling or clamming is being performed. Only those workers necessary for the performance of the operations shall be permitted in this area at any other time.

(b) The weight of the demolition ball shall not exceed 50 percent of the crane's rated load, based on the length of the boom and the maximum angle of operation at which the demolition ball will be used, or it shall not exceed 25 percent of the nominal breaking strength of the line by which it is suspended, whichever results in a lesser value.

(c) The crane boom and loadline shall be as short as possible.

(d) The ball shall be attached to the loadline with a swivel-type connection to prevent twisting of the loadline, and shall be attached by positive means in such manner that the weight cannot become accidentally disconnected.

(e) When pulling over walls or portions thereof, all steel members affected shall have been previously cut free.

(f) All roof cornices or other such ornamental stonework shall be removed prior to pulling walls over.

(g) During demoliton, continuing inspections by a competent person shall be made as the work progresses to detect hazards resulting from weakened or deteriorated floors, or walls, or loosened material. No employee shall be permitted to work where such hazards exist until they are corrected by shoring, bracing, or other effective means.

§ 1926.860 Selective demolition by explosives.

Selective demolition by explosives shall be conducted in accordance with the applicable sections of Subpart U of this part.

Subpart U—Blasting and the Use of Explosives[1]

Sec.

1926.900 General provisions.
1910.109 Explosives and blasting agents.
1926.901 Blaster qualifications.
1926.902 Surface transportation of explosives.
1926.903 Underground transportation of explosives.
1926.904 Storage of explosives and blasting agents.
1926.905 Loading of explosives or blasting agents.
1910.109 Explosives and blasting agents.
1926.906 Initiation of explosive charges—electric blasting.
1926.907 Use of safety fuse.
1926.908 Use of detonating cord.
1926.909 Firing the blast.
1926.910 Inspection after blasting.
1926.911 Misfires.
1926.912 Underwater blasting.
1926.913 Blasting in excavation work under compressed air.
1926.914 Definitions applicable to this subpart.

§ 1926.900 General provisions.

(a) The employer shall permit only authorized and qualified persons to handle and use explosives.

(b) Smoking, firearms, matches, open flame lamps, and other fires, flame or heat producing devices and sparks shall be prohibited in or near explosive magazines or while explosives are being handled, transported or used.

(c) No person shall be allowed to handle or use explosives while under the influence of intoxicating liquors, narcotics, or other dangerous drugs.

(d) All explosives shall be accounted for at all times. Explosives not being used shall be kept in a locked magazine, unavailable to persons not authorized to handle them. The employer shall maintain an inventory and use record of all explosives. Appropriate authorities shall be notified of any loss, theft, or unauthorized entry into a magazine.

(e) No explosives or blasting agents shall be abandoned.

(f) No fire shall be fought where the fire is in imminent danger of contact with explosives. All employees shall be removed to a safe area and the fire area guarded against intruders.

(g) Original containers, or Class II magazines, shall be used for taking detonators and other explosives from storage magazines to the blasting area.

(h) When blasting is done in congested areas or in proximity to a structure, railway, or highway, or any other installation that may be damaged, the blaster shall take special precautions in the loading, delaying, initiation, and confinement of each blast with mats or other methods so as to control the throw of fragments, and thus prevent bodily injury to employees.

(i) Employees authorized to prepare explosive charges or conduct blasting operations shall use every reasonable precaution including, but not limited to, visual and audible warning signals, flags, or barricades, to ensure employee safety.

(j) Insofar as possible, blasting operations above ground shall be conducted between sunup and sundown.

(k) Due precautions shall be taken to prevent accidental discharge of electric blasting caps from current induced by radar, radio transmitters, lightning, adjacent powerlines, dust storms, or other sources of extraneous electricity. These precautions shall include:

(1) Detonators shall be short-circuited in holes which have been primed and shunted until wired into the blasting circuit.

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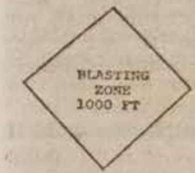
[1] Portions of the listed Part 1910 standards have been identified as applicable to construction.

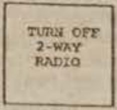
(2) The suspension of all blasting operations and removal of persons from the blasting area during the approach and progress of an electric storm;

(3) (i) The prominent display of adequate signs, warning against the use of mobile radio transmitters, on all roads within 1,000 feet of blasting operations. Whenever adherence to the 1,000-foot distance would create an operational handicap, a competent person shall be consulted to evaluate the particular situation, and alternative provisions may be made which are adequately designed to prevent any premature firing of electric blasting caps. A description of any such alternatives shall be reduced to writing and shall be certified as meeting the purposes of this subdivision by the competent person consulted. The description shall be maintained at the construction site during the duration of the work, and shall be available for inspection by representatives of the Secretary of Labor.

(ii) Specimens of signs which would meet the requirements of subdivision (i) of this subparagraph (3) are the following:



About 48" x 48"



About 42" x 36"

(4) Ensuring that mobile radio transmitters which are less than 100 feet away from electric blasting caps, in other than original containers, shall be deenergized and effectively locked;

(5) Compliance with the recommendations of The Institute of the Makers of Explosives with regard to blasting in the vicinity of radio transmitters as stipulated in Radio Frequency Energy—A Potential Hazard in the Use of Electric Blasting Caps, IME Publication No. 20, March 1971.

(l) Empty boxes and paper and fiber packing materials, which have previously contained high explosives, shall not be used again for any purpose, but shall be destroyed by burning at an approved location.

(m) Explosives, blasting agents, and blasting supplies that are obviously deteriorated or damaged shall not be used.

(n) Delivery and issue of explosives shall only be made by and to authorized persons and into authorized magazines or approved temporary storage or handling areas.

(o) Blasting operations in the proximity of overhead power lines, communication lines, utility services, or other services and structures shall not be carried on until the operators and/or owners have been notified and measures for safe control have been taken.

(p) The use of black powder shall be prohibited.

(q) All loading and firing shall be directed and supervised by competent persons thoroughly experienced in this field.

(r) All blasts shall be fired electrically with an electric blasting machine or properly designed electric power source, except as provided in § 1926.906 (a) and (r).

The following requirements from 29 CFR Part 1910 (General Industry) habe been identified as applicable to construction (29 CFR 1916.900 *General provisions* (Explosives and Blasting Agents)).

§ 1910.109 Explosives and blasting agents.

* * * * *

(g) * * *

(2) * * *

(ii) Buildings used for the mixing of blasting agents shall conform to the requirements of this section.

(*a*) Buildings shall be of noncombustible construction or sheet metal on wood studs.

(*b*) Floors in a mixing plant shall be of concrete or of other nonabsorbent materials.

(*c*) All fuel oil storage facilities shall be separated from the mixing plant and located in such a manner that in case of tank rupture, the oil will drain away from the mixing plant building.

(*d*) The building shall be well ventilated.

(*e*) Heating units which do not depend on combustion processes, when properly designed and located, may be used in the building. All direct sources of heat shall be provided exclusively from units located outside the mixing building.

(*f*) All internal-combustion engines used for electric power generation shall be located outside the mixing plant building, or shall be properly ventilated and isolated by a firewall. The exhaust systems on all such engines shall be located so any spark emission cannot be a hazard to any materials in or adjacent to the plant.

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(h) * * *

(3) * * *

(ii) Buildings used for the mixing of water gels shall conform to the requirements of this subdivision.

(*a*) Buildings shall be of noncombustible construction or sheet metal on wood studs.

(*b*) Floors in a mixing plant shall be of concrete or of other nonabsorbent materials.

(*c*) Where fuel oil is used all fuel oil storage facilities shall be separated from the mixing plant and located in such a manner that in case of tank rupture, the oil will drain away from the mixing plant building.

(*d*) The building shall be well ventilated.

(*e*) Heating units that do not depend on combustion processes, when properly designed and located, may be used in the building. All direct sources of heat shall be provided exclusively from units located outside of the mixing building.

(*f*) All internal-combustion engines used for electric power generation shall be located outside the mixing plant building, or shall be properly ventilated and isolated by a firewall. The exhaust systems on all such engines shall be located so any spark emission cannot be a hazard to any materials in or adjacent to the plant.

* * * * *

§ 1926.901 Blaster qualifications.

(a) A blaster shall be able to understand and give written and oral orders.

(b) A blaster shall be in good physical condition and not be addicted to narcotics, intoxicants, or similar types of drugs.

(c) A blaster shall be qualified, by reason of training, knowledge, or experience, in the field of transporting, storing, handling, and use of explosives, and have a working knowledge of State and local laws and regulations which pertain to explosives.

(d) Blasters shall be required to furnish satisfactory evidence of competency in handling explosives and performing in a safe manner the type of blasting that will be required.

(e) The blaster shall be knowledgeable and competent in the use of each type of blasting method used.

§ 1926.902 Surface transportation of explosives.

(a) Transportation of explosives shall meet the provisions of Department of Transportation regulations contained in 14 CFR Part 103, Air Transportation; 46 CFR Parts 146-149, Water Carriers; 49 CFR Parts 171-179, Highways and Railways; 49 CFR Part 180, Pipelines; and 49 CFR Parts 390-397, Motor Carriers.

(b) Motor vehicles or conveyances transporting explosives shall only be driven by, and be in the charge of, a licensed driver who is physically fit. He shall be familiar with the local, State, and Federal regulation governing the transportation of explosives.

(c) No person shall smoke, or carry matches or any other flame-producing device, nor shall firearms or loaded cartridges be carried while in or near a motor vehicle or conveyance transporting explosives.

(d) Explosives, blasting agents, and blasting supplies shall not be transported with other materials or cargoes. Blasting caps (including electric) shall not be transported in the same vehicle with other explosives.

(e) Vehicles used for transporting explosives shall be strong enough to carry the load without difficulty, and shall be in good mechanical condition.

(f) When explosives are transported by a vehicle with an open body, a Class II magazine or original manufacturer's container shall be securely mounted on the bed to contain the cargo.

(g) All vehicles used for the transportation of explosives shall have tight floors and any exposed spark-producing metal on the inside of the body shall be covered with wood, or other nonsparking material, to prevent contact with containers of explosives.

(h) Every motor vehicle or conveyance used for transporting explosives shall be marked or placarded on both sides, the front, and the rear with the word "Explosives" in red letters, not less than 4 inches in height, on white background. In addition to such marking or placarding, the motor vehicle or conveyance may display, in such a manner that it will be readily visible from all directions, a red flag 18 inches by 30 inches, with the word "Explosives" painted, stamped, or sewed thereon, in white letters, at least 6 inches in height.

(i) Each vehicle used for transportation of explosives shall be equipped with a fully charged fire extinguisher, in good condition. An Underwriters' Laboratory-approved extinguisher of not less than 10-ABC rating will meet the minimum requirement. The driver shall be trained in the use of the extinguisher on his vehicle.

(j) Motor vehicles or conveyances carrying explosives, blasting agents, or blasting supplies, shall not be taken inside a garage or shop for repairs or servicing.

(k) No motor vehicle transporting explosives shall be left unattended.

§ 1926.903 Underground transportation of explosives.

(a) All explosives or blasting agents in transit underground shall be taken to the place of use or storage without delay.

(b) The quantity of explosives or blasting agents taken to an underground loading area shall not exceed the amount estimated to be necessary for the blast.

(c) Explosives in transit shall not be left unattended.

(d) The hoist operator shall be notified before explosives or blasting agents are transported in a shaft conveyance.

(e) Trucks used for the transportation of explosives underground shall have the electrical system checked weekly to detect any failures which may constitute an electrical hazard. A written record of such inspections shall be kept on file.

(f) The installation of auxiliary lights on truck beds, which are powered by the truck's electrical system, shall be prohibited.

(g) Explosives and blasting agents shall be hoisted, lowered, or conveyed in a powder car. No other materials, supplies, or equipment shall be transported in the same conveyance at the same time.

(h) No one, except the operator, his helper, and the powderman, shall be permitted to ride on a conveyance transporting explosives and blasting agents.

(i) No person shall ride in any shaft conveyance transporting explosives and blasting agents.

(j) No explosives or blasting agents shall be transported on any locomotive. At least two car lengths shall separate the locomotive from the powder car.

(k) No explosives or blasting agents shall be transported on a man haul trip.

(l) The car or conveyance containing explosives or blasting agents shall be pulled, not pushed, whenever possible.

(m) The powder car or conveyance especially built for the purpose of transporting explosives or blasting agents shall bear a reflectorized sign on each side with the word "Explosives" in letters, not less than 4 inches in height; upon a background of sharply contrasting color.

(n) Compartments for transporting detonators and explosives in the same car or conveyance shall be physically separated by a distance of 24 inches or by a solid partition at least 6 inches thick.

(o) Detonators and other explosives shall not be transported at the same time in any shaft conveyance.

(p) Explosives, blasting agents, or blasting supplies shall not be transported with other materials.

(q) Explosives or blasting agents, not in original containers, shall be placed in a suitable container when transported manually.

(r) Detonators, primers, and other explosives shall be carried in separate containers when transported manually.

§ 1926.904 Storage of explosives and blasting agents.

(a) Explosives and related materials shall be stored in approved facilities required under the applicable provisions of the Internal Revenue Service regulations contained in 26 CFR 181, Commerce in Explosives.

(b) Blasting caps, electric blasting caps, detonating primers, and primed cartridges shall not be stored in the same magazine with other explosives or blasting agents.

(c) Smoking and open flames shall not be permitted within 50 feet of explosives and detonator storage magazine.

(d) No explosives or blasting agents shall be permanently stored in any underground operation until the operation has been developed to the point where at least two modes of exit have been provided.

(e) Permanent underground storage magazines shall be at least 300 feet from any shaft, adit, or active underground working area.

(f) Permanent underground magazines containing detonators shall not be located closer than 50 feet to any magazine containing other explosives or blasting agents.

§ 1926.905 Loading of explosives or blasting agents.

(a) Procedures that permit safe and efficient loading shall be established before loading is started.

(b) All drill holes shall be sufficiently large to admit freely the insertion of the cartridges of explosives.

(c) Tamping shall be done only with wood rods or plastic tamping poles without exposed metal parts, but nonsparking metal connectors may be used for jointed poles. Violent tamping shall be avoided. The primer shall never be tamped.

(d) No holes shall be loaded except those to be fired in the next round of blasting. After loading, all remaining explosives and detonators shall be immediately returned to an authorized magazine.

(e) Drilling shall not be started until all remaining butts of old holes are examined for unexploded charges, and if any are found, they shall be refired before work proceeds.

(f) No person shall be allowed to deepen drill holes which have contained explosives or blasting agents.

(g) No explosives or blasting agents shall be left unattended at the blast site.

(h) Machines and all tools not used for loading explosives into bore holes shall be removed from the immediate location of holes before explosives are delivered. Equipment shall not be operated within 50 feet of loaded holes.

(i) No activity of any nature other than that which is required for loading holes with explosives shall be permitted in a blast area.

(j) Powerlines and portable electric cables for equipment being used shall be kept a safe distance from explosives or blasting agents being loaded into drill holes. Cables in the proximity of the blast area shall be deenergized and locked out by the blaster.

(k) Holes shall be checked prior to loading to determine depth and conditions. Where a hole has been loaded with explosives but the explosives have failed to detonate, there shall be no drilling within 50 feet of the hole.

(l) When loading a long line of holes with more than one loading crew, the crews shall be separated by practical distance consistent with efficient operation and supervision of crews.

(m) No explosive shall be loaded or used underground in the presence of combustible gases or combustible dusts.

(n) No explosives other than those in Fume Class 1, as set forth by the Institute of Makers of Explosives, shall be used; however, explosives complying with the requirements of Fume Class 2 and Fume Class 3 may be used if adequate ventilation has been provided.

(o) All blast holes in open work shall be stemmed to the collar or to a point which will confine the charge.

(p) Warning signs, indicating a blast area, shall be maintained at all approaches to the blast area. The warning sign lettering shall not be less than 4 inches in height on a contrasting background.

(q) A bore hole shall never be sprung when it is adjacent to or near a hole that is loaded. Flashlight batteries shall not be used for springing holes.

(r) Drill holes which have been sprung or chambered, and which are not water-filled, shall be allowed to cool before explosives are loaded.

(s) No loaded holes shall be left unattended or unprotected.

(t) The blaster shall keep an accurate, up-to-date record of explosives, blasting agents, and blasting supplies used in a blast and shall keep an accurate running inventory of all explosives and blasting agents stored on the operation.

> The following requirement from 29 CFR Part 1910 (General Industry) have been identified as applicable to construction (29 CFR 1926.905 *Loading of explosives or blasting agents*), in accordance with the definition noted below.

§ 1910.109 Explosives and blasting agents.

(a) * * *

(12) *Semiconductive hose.* Semiconductive hose—a hose with an electrical resistance high enough to limit flow of stray electric currents to safe levels, yet not so high as to prevent drainage of static electric charges to ground; hose of not more than 2 megohms resistance over its entire length and of not less than 5,000 ohms per foot meets the requirement.

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(iii) When loading blasting agents pneumatically over electric blasting caps, semiconductive delivery hose shall be used and the equipment shall be bonded and grounded.

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§ 1926.906 Initiation of explosive charges—electric blasting.

(a) Electric blasting caps shall not be used where sources of extraneous electricity make the use of electric blasting caps dangerous. Blasting cap leg wires shall be kept short-circuited (shunted) until they are connected into the circuit for firing.

(b) Before adopting any system of electrical firing, the blaster shall conduct a thorough survey for extraneous currents, and all dangerous currents shall be eliminated before any holes are loaded.

(c) In any single blast using electric blasting caps, all caps shall be of the same style or function, and of the same manufacture.

(d) Electric blasting shall be carried out by using blasting circuits or power circuits in accordance with the electric blasting cap manufacturer's recommendations, or an approved contractor or his designated representative.

(e) When firing a circuit of electric blasting caps, care must be exercised to ensure that an adequate quantity of delivered current is available, in accordance with the manufacturer's recommendations.

(f) Connecting wires and lead wires shall be insulated single solid wires of sufficient current-carrying capacity.

(g) Bus wires shall be solid single wires of sufficient current-carrying capacity.

(h) When firing electrically, the insulation on all firing lines shall be adequate and in good condition.

(i) A power circuit used for firing electric blasting caps shall not be grounded.

(j) In underground operations when firing from a power circuit, a safety switch shall be placed in the permanent firing line at intervals. This switch shall be made so it can be locked only in the "Off" position and shall be provided with a short-circuiting arrangement of the firing lines to the cap circuit.

(k) In underground operations there shall be a "lightning" gap of at least 5 feet in the firing system ahead of the main firing switch; that is, between this switch and the source of power. This gap shall be bridged by a flexible jumper cord just before firing the blast.

(l) When firing from a power circuit, the firing switch shall be locked in the open or "Off" position at all times, except when firing. It shall be so designed that the firing lines to the cap circuit are automatically short-circuited when the switch is in the "Off" position. Keys to this switch shall be entrusted only to the blaster.

(m) Blasting machines shall be in good condition and the efficiency of the machine shall be tested periodically to make certain that it can deliver power at its rated capacity.

(n) When firing with blasting machines, the connections shall be made as recommended by the manufacturer of the electric blasting caps used.

(o) The number of electric blasting caps connected to a blasting machine shall not be in excess of its rated capacity. Furthermore, in primary blasting, a series circuit shall contain no more caps than the limits recommended by the manufacturer of the electric blasting caps in use.

(p) The blaster shall be in charge of the blasting machines, and no other person shall connect the leading wires to the machine.

(q) Blasters, when testing circuits to charged holes, shall use only blasting galvanometers equipped with a silver chloride cell especially designed for this purpose.

(r) Whenever the possibility exists that a leading line or blasting wire might be thrown over a live powerline by the force of an explosion, care shall be taken to see that the total length of wires are kept too short to hit the lines, or that the wires are securely anchored to the ground. If neither of these requirements can be satisfied, a nonelectric system shall be used.

(s) In electrical firing, only the man making leading wire connections shall fire the shot. All connections shall be made from the bore hole back to the source of firing current, and the leading wires shall remain shorted and not be connected to the blasting machine or other source of current until the charge is to be fired.

(t) After firing an electric blast from a blasting machine, the leading wires shall be immediately disconnected from the machine and short-circuited.

§ 1926.907 Use of safety fuse.

(a) Safety fuse shall only be used where sources of extraneous electricity make the use of electric blasting caps dangerous. The use of a fuse that has been hammered or injured in any way shall be forbidden.

(b) The hanging of a fuse on nails or other projections which will cause a sharp bend to be formed in the fuse is prohibited.

(c) Before capping safety fuse, a short length shall be cut from the end of the supply reel so as to assure a fresh cut end in each blasting cap.

(d) Only a cap crimper of approved design shall be used for attaching blasting caps to safety fuse. Crimpers shall be kept in good repair and accessible for use.

(e) No unused cap or short capped fuse shall be placed in any hole to be blasted; such unused detonators shall be removed from the working place and destroyed.

(f) No fuse shall be capped, or primers made up, in any magazine or near any possible source of ignition.

(g) No one shall be permitted to carry detonators or primers of any kind on his person.

(h) The minimum length of safety fuse to be used in blasting shall be as required by State law, but shall not be less than 30 inches.

(i) At least two men shall be present when multiple cap and fuse blasting is done by hand lighting methods.

(j) Not more than 12 fuses shall be lighted by each blaster when hand lighting devices are used. However, when two or more safety fuses in a group are lighted as one by means of igniter cord, or other similar fuse-lighting devices, they may be considered as one fuse.

(k) The so-called "drop fuse" method of dropping or pushing a primer or any explosive with a lighted fuse attached is forbidden.

(l) Cap and fuse shall not be used for firing mudcap charges unless charges are separated sufficiently to prevent one charge from dislodging other shots in the blast.

(m) When blasting with safety fuses, consideration shall be given to the length and burning rate of the fuse. Sufficient time, with a margin of safety, shall always be provided for the blaster to reach a place of safety.

§ 1926.908 Use of detonating cord.

(a) Care shall be taken to select a detonating cord consistent with the type and physical condition of the bore hole and stemming and the type of explosives used.

(b) Detonating cord shall be handled and used with the same respect and care given other explosives.

(c) The line of detonating cord extending out of a bore hole or from a charge shall be cut from supply spool before loading the remainder of the bore hole or placing additional charges.

(d) Detonating cord shall be handled and used with care to avoid damaging or severing the cord during and after loading and hooking-up.

(e) Detonating cord connections shall be competent and positive in accordance with approved and recommended methods. Knot-type or other cord-to-cord connections shall be made only with detonating cord in which the explosive core is dry.

(f) All detonating cord trunklines and branchlines shall be free of loops, sharp kinks, or angles that direct the cord back toward the oncoming line of detonation.

(g) All detonating cord connections shall be inspected before firing the blast.

(h) When detonating cord millisecond-delay connectors or short-interval-delay electric blasting caps are used with detonating cord, the practice shall conform strictly to the manufacturer's recommendations.

(i) When connecting a blasting cap or an electric blasting cap to detonating cord, the cap shall be taped or otherwise attached securely along the side or the end of the detonating cord, with the end of the cap containing the explosive charge pointed in the direction in which the detonation is to proceed.

(j) Detonators for firing the trunkline shall not be brought to the loading area nor attached to the detonating cord until everything else is in readiness for the blast.

§ 1926.909 Firing the blast.

(a) A code of blasting signals equivalent to Table U-1, shall be posted on one or more conspicuous places at the operation, and all employees shall be required to familiarize themselves with the code and conform to it. Danger signs shall be placed at suitable locations.

(b) Before a blast is fired, a loud warning signal shall be given by the blaster in charge, who has made certain that all surplus explosives are in a safe place and all employees, vehicles, and equipment are at a safe distance, or under sufficient cover.

(c) Flagmen shall be safely stationed on highways which pass through the danger zone so as to stop traffic during blasting operations.

(d) It shall be the duty of the blaster to fix the time of blasting.

(e) Before firing an underground blast, warning shall be given, and all possible entries into the blasting area, and any entrances to any working place where a drift, raise, or other opening is about to hole through, shall be carefully guarded. The blaster shall make sure that all employees are out of the blast area before firing a blast.

TABLE U-1

WARNING SIGNAL—A 1-minute series of long blasts 5 minutes prior to blast signal.

BLAST SIGNAL—A series of short blasts 1 minute prior to the shot.

ALL CLEAR SIGNAL—A prolonged blast following the inspection of blast area.

§ 1926.910 Inspection after blasting.

(a) Immediately after the blast has been fired, the firing line shall be disconnected from the blasting machine, or where power switches are used, they shall be locked open or in the off position.

(b) Sufficient time shall be allowed, not less than 15 minutes in tunnels, for the smoke and fumes to leave the blasted area before returning to the shot. An inspection of the area and the surrounding rubble shall be made by the blaster to determine if all charges have been exploded before employees are allowed to return to the operation, and in tunnels, after the muck pile has been wetted down.

§ 1926.911 Misfires.

(a) If a misfire is found, the blaster shall provide proper safeguards for excluding all employees from the danger zone.

(b) No other work shall be done except that necessary to remove the hazard of the misfire and only those employees necessary to do the work shall remain in the danger zone.

(c) No attempt shall be made to extract explosives from any charged or misfired hole; a new primer shall be put in and the hole reblasted. If refiring of the misfired hole presents a hazard, the explosives may be removed by washing out with water or, where the misfire is under water, blown out with air.

(d) If there are any misfires while using cap and fuse, all employees shall remain away from the charge for at least 1 hour. Misfires shall be handled under the direction of the person in charge of the blasting. All wires shall be carefully traced and a search made for unexploded charges.

(e) No drilling, digging, or picking shall be permitted until all missed holes have been detonated or the authorized representative has approved that work can proceed.

§ 1926.912 Underwater blasting.

(a) A blaster shall conduct all blasting operations, and no shot shall be fired without his approval.

(b) Loading tubes and casings of dissimilar metals shall not be used because of possible electric transient currents from galvanic action of the metals and water.

(c) Only water-resistant blasting caps and detonating cords shall be used for all marine blasting. Loading shall be done through a nonsparking metal loading tube when tube is necessary.

(d) No blast shall be fired while any vessel under way is closer than 1,500 feet to the blasting area. Those on board vessels or craft moored or anchored within 1,500 feet shall be notified before a blast is fired.

(e) No blast shall be fired while any swimming or diving operations are in progress in the vicinity of the blasting area. If such operations are in progress, signals and arrangements shall be agreed upon to assure that no blast shall be fired while any person is in the water.

(f) Blasting flags shall be displayed.

(g) The storage and handling of explosives aboard vessels used in underwater blasting operations shall be according to provisions outlined herein on handling and storing explosives.

(h) When more than one charge is placed under water, a float device shall be attached to an element of each charge in such manner that it will be released by the firing. Misfires shall be handled in accordance with the requirements of § 1926.911.

§ 1926.913 Blasting in excavation work under compressed air.

(a) Detonators and explosives shall not be stored or kept in tunnels, shafts, or caissons. Detonators and explosives for each round shall be taken directly from the magazines to the blasting zone and immediately loaded. Detonators and explosives left over after loading a round shall be removed from the working chamber before the connecting wires are connected up.

(b) When detonators or explosives are brought into an air lock, no employee except the powderman, blaster, lock tender and the employees necessary for carrying, shall be permitted to enter the air lock. No other material, supplies, or equipment shall be locked through with the explosives.

(c) Detonators and explosives shall be taken separately into pressure working chambers.

(d) The blaster or powderman shall be responsible for the receipt, unloading, storage, and on-site transportation of explosives and detonators.

(e) All metal pipes, rails, air locks, and steel tunnel lining shall be electrically bonded together and grounded at or near the portal or shaft, and such pipes and rails shall be cross-bonded together at not less than 1,000-foot intervals throughout the length of the tunnel. In addition, each low air supply pipe shall be grounded at its delivery end.

(f) The explosives suitable for use in wet holes shall be water-resistant and shall be Fume Class 1.

(g) When tunnel excavation in rock face is approaching mixed face, and when tunnel excavation is in mixed face, blasting shall be performed with light charges and with light burden on each hole. Advance drilling shall be performed as tunnel excavation in rock face approaches mixed face, to determine the general nature and extent of rock cover and the remaining distance ahead to soft ground as excavation advances.

§ 1926.914 Definitions applicable to this subpart.

(a) "American Table of Distances" (also known as Quantity Distance Tables) means American Table of Distances for Storage of Explosives as revised and approved by the Institute of the Makers of Explosives, June 5, 1964.

(b) "Approved storage facility"—A facility for the storage of explosive materials conforming to the requirements of this part and covered by a license or permit issued under authority of the Internal Revenue Service. (See 26 CFR Part 181.)

(c) "Blast area"—The area in which explosives loading and blasting operations are being conducted.

(d) "Blaster"—The person or persons authorized to use explosives for blasting purposes and meeting the qualifications contained in § 1926.901.

(e) "Blasting agent"—A blasting agent is any material or mixture consisting of a fuel and oxidizer used for blasting, but not classified an explosive and in which none of the ingredients is classified as an explosive provided the furnished (mixed) product cannot be detonated with a No. 8 test blasting cap when confined. A common blasting agent presently in use is a mixture of ammonium nitrate (NH_4NO_3) and carbonaceous combustibles, such as fuel oil or coal, and may either be procured, premixed and packaged from explosives companies or mixed in the field.

(f) "Blasting cap"—A metallic tube closed at one end, containing a charge of one or more detonating compounds, and designed for and capable of detonation from the sparks or flame from a safety fuse inserted and crimped into the open end.

(g) "Block holing"—The breaking of boulders by firing a charge of explosives that has been loaded in a drill hole.

(h) "Conveyance"—Any unit for transporting explosives or blasting agents, including but not limited to trucks, trailers, rail cars, barges, and vessels.

(i) "Detonating cord"—A flexible cord containing a center core of high explosives which when detonated, will have sufficient strength to detonate other cap-sensitive explosives with which it is in contact.

(j) "Detonator"—Blasting caps, electric blasting caps, delay electric blasting caps, and nonelectric delay blasting caps.

(k) "Electric blasting cap"—A blasting cap designed for and capable of detonation by means of an electric current.

(l) "Electric blasting circuitry"—(1) Bus wire. An expendable wire, used in parallel or series, in parallel circuits, to which are connected the leg wires of electric blasting caps.

(2) Connecting wire. An insulated expendable wire used between electric blasting caps and the leading wires or between the bus wire and the leading wires.

(3) Leading wire. An insulated wire used between the electric power source and the electric blasting cap circuit.

(4) Permanent blasting wire. A permanently mounted insulated wire used between the electric power source and the electric blasting cap circuit.

(m) "Electric delay blasting caps"—Caps designed to detonate at a predetermined period of time after energy is applied to the ignition system.

(n) "Explosives"—(1) Any chemical compound, mixture, or device, the primary or common purpose of which is to function by explosion; that is, with substantially instantaneous release of gas and heat, unless such compound, mixture or device is otherwise specifically classified by the U.S. Department of Transportation.

(2) All material which is classified as Class A, Class B, and Class C Explosives by the U.S. Department of Transportation.

(3) Classification of explosives by the U.S. Department of Transportation is as follows:

Class A Explosives. Possessing detonating hazard, such as dynamite, nitroglycerin, picric acid, lead azide, fulminate of mercury, black powder, blasting caps, and detonating primers.

Class B Explosives. Possessing flammable hazard, such as propellant explosives, including some smokeless propellants.

Class C Explosives. Include certain types of manufactured articles which contain Class A or Class B explosives, or both, as components, but in restricted quantities.

(o) "Fuse lighters"—Special devices for the purpose of igniting safety fuse.

(p) "Magazine"—Any building or structure, other than an explosives manufacturing building, used for the storage of explosives.

(q) "Misfire"—An explosive charge which failed to detonate.

(r) "Mud-capping" (sometimes known as bulldozing, adobe blasting, or dobying). The blasting of boulders by placing a quantity of explosives against a rock, boulder, or other object without confining the explosives in a drill hole.

(s) "Nonelectric delay blasting cap"—A blasting cap with an integral delay element in conjunction with and capable of being detonated by a detonation impulse or signal from miniaturized detonating cord.

(t) "Primary blasting"—The blasting operation by which the original rock formation is dislodged from its natural location.

Subpart V—Power Transmission and Distribution

Sec.
1926.950 General requirements.
1926.951 Tools and protective equipment.
1926.952 Mechanical equipment.
1926.953 Material handling.
1926.954 Grounding for protection of employees.
1926.955 Overhead lines.
1926.956 Underground lines.
1926.957 Construction in energized substations.
1926.958 External load helicopetes.
1926.959 Lineman's body belts, safety straps, and lanyards.
1926.960 Definitions applicable to this subpart.

§ 1926.950 General requirements.

(a) *Application.* The occupational safety and health standards contained in this Subpart V shall apply to the construction of electric transmission and distribution lines and equipment.

(1) As used in this Subpart V the term "construction" includes the erection of new electric transmission and distribution lines and equipment, and the alteration, conversion, and improvement of existing electric transmission and distribution lines and equipment.

(2) Existing electric transmission and distribution lines and electrical equipment need not be modified to conform to the requirements of applicable standards in this Subpart V, until such work as described in subparagraph (1) of this paragraph is to be performed on such lines or equipment.

(3) The standards set forth in this Subpart V provide minimum requirements for safety and health. Employers may require adherence to additional standards which are not in conflict with the standards contained in this Subpart V.

(b) *Initial inspections, tests, or determinations.* (1) Existing conditions shall be determined before starting work, by an inspection or a test. Such conditions shall include, but not be limited to, energized lines and equipment, conditions of poles, and the location of circuits and equipment, including power and communication lines, CATV and fire alarm circuits.

(2) Electric equipment and lines shall be considered energized until determined to be deenergized by tests or other appropriate methods or means.

(3) Operating voltage of equipment and lines shall be determined before working on or near energized parts.

(c) *Clearances.* The provisions of subparagraph (1) or (2) of this paragraph shall be observed.

(1) No employee shall be permitted to approach or take any conductive object without an approved insulating handle closer to exposed energized parts than shown in Table V-1, unless:

(i) The employee is insulated or guarded from the energized part (gloves or gloves with sleeves rated for the voltage involved shall be considered insulation of the employee from the energized part), or

(ii) The energized part is insulated or guarded from him and any other conductive object at a different potential, or

(iii) The employee is isolated, insulated, or guarded from any other conductive object(s), as during live-line bare-hand work.

(2) (i) The minimum working distance and minimum clear hot stick distances stated in Table V-1 shall not be violated. The minimum clear hot stick distance is that for the use of live-line tools held by linemen when performing live-line work.

(ii) Conductor support tools, such as link sticks, strain carriers, and insulator cradles, may be used: *Provided,* That the clear insulation is at least as long as the insulator string or the minimum distance specified in Table V-1 for the operating voltage.

TABLE V-1

ALTERNATING CURRENT—MINIMUM DISTANCES

Voltage range (phase to phase) kilovolt	*Minimum working and clear hot stick distance*
2.1 to 15	2 ft. 0 in.
15.1 to 35	2 ft. 4 in.
35.1 to 46	2 ft. 6 in.
46.1 to 72.5	3 ft. 0 in.
72.6 to 121	3 ft. 4 in.
138 to 145	3 ft. 6 in.
161 to 169	3 ft. 8 in.
230 to 242	5 ft. 0 in.
345 to 362	[1]7 ft. 0 in.
500 to 552	[1]11 ft. 0 in.
700 to 765	[1]15 ft. 0 in.

[1] NOTE: For 345-362 kv., 500-552 kv., and 700-765 kv., the minimum working distance and the minimum clear hot stick distance may be reduced provided that such distances are not less than the shortest distance between the energized part and a grounded surface.

(d) *Deenergizing lines and equipment.* (1) When deenergizing lines and equipment operated in excess of 600 volts, and the means of disconnecting from electric energy is not visibly open or visibly locked out, the provisions of subdivisions (i) through (vii) of this subparagraph shall be complied with:

(i) The particular section of line or equipment to be deenergized shall be clearly identified, and it shall be isolated from all sources of voltage.

(ii) Notification and assurance from the designated employee shall be obtained that:

(*a*) All switches and disconnectors through which electric energy may be supplied to the particular section of line or equipment to be worked have been deenergized;

(*b*) All switches and disconnectors are plainly tagged indicating that men are at work;

(*c*) And that where design of such switches and disconnectors permits, they have been rendered inoperable.

(iii) After all designated switches and disconnectors have been opened, rendered inoperable, and tagged, visual inspection or tests shall be conducted to insure that equipment or lines have been deenergized.

(iv) Protective grounds shall be applied on the disconnected lines or equipment to be worked on.

(v) Guards or barriers shall be erected as necessary to adjacent energized lines.

(vi) When more than one independent crew requires the same line or equipment to be deenergized, a prominent tag for each such independent crew shall be placed on the line or equipment by the designated employee in charge.

(vii) Upon completion of work on deenergized lines or equipment, each designated employee in charge shall determine that all employees in his crew are clear, that protective grounds installed by his crew have been removed, and he shall report to the designated authority that all tags protecting his crew may be removed.

(2) When a crew working on a line or equipment can clearly see that the means of disconnecting from electric energy are visibly open or visibly locked-out, the provisions of subdivisions (i), and (ii) of this subparagraph shall apply:

(i) Guards or barriers shall be erected as necessary to adjacent energized lines.

(ii) Upon completion of work on deenergized lines or equipment, each designated employee in charge shall determine that all employees in his crew are clear, that protective grounds installed by his crew have been removed, and he shall report to the designated authority that all tags protecting his crew may be removed.

(e) *Emergency procedures and first aid.* (1) The employer shall provide training or require that his employees are knowledgeable and proficient in:

(i) Procedures involving emergency situations, and

(ii) First-aid fundamentals including resuscitation.

(2) In lieu of paragraph (e)(1) of this section the employer may comply with the provisions of § 1926.50(c) regarding first-aid requirements.

(f) *Night work.* When working at night, spotlights or portable lights for emergency lighting shall be provided as needed to perform the work safely.

(g) *Work near and over water.* When crews are engaged in work over or near water and when danger of drowning exists, suitable protection shall be provided as stated in § 1926.104, or § 1926.105, or § 1926.106.

(h) *Sanitation facilities.* The requirements of § 1926.51 of Subpart D of this part shall be complied with for sanitation facilities.

(i) *Hydraulic fluids.* All hydraulic fluids used for the insulated sections of derrick trucks, aerial lifts, and hydraulic tools which are used on or around energized lines and equipment shall be of the insulating type. The requirements for fire resistant fluids of § 1926.302(d)(1) do not apply to hydraulic tools covered by this paragraph.

§ 1926.951 Tools and protective equipment.

(a) *Protective equipment.* (1)(i) Rubber protective equipment shall be in accordance with the provisions of the American National Standards Institute (ANSI), ANSI J6 series, as follows:

Item	*Standard*
Rubber insulating gloves	J6.6-1971.
Rubber matting for use around electric apparatus.	J6.7-1935 (R1971).
Rubber insulating blankets	J6.4-1971.
Rubber insulating hoods	J6.2-1950 (R1971).
Rubber insulating line hose	J6.1-1950 (R1971).
Rubber insulating sleeves	J6.5-1971.

(ii) Rubber protective equipment shall be visually inspected prior to use.

(iii) In addition, an "air" test shall be performed for rubber gloves prior to use.

(iv) Protective equipment of material other than rubber shall provide equal or better electrical and mechanical protection.

(2) Protective hats shall be in accordance with the provisions of ANSI Z89.2-1971 Industrial Protective Helmets for Electrical Workers, Class B, and shall be worn at the jobsite by employees who are exposed to the hazards of falling objects, electric shock, or burns.

(b) *Personal climbing equipment.* (1) Body belts with straps or lanyards shall be worn to protect employees working at elevated locations on poles, towers, or other structures except where such use creates a greater hazard to the safety of the employees, in which case other safeguards shall be employed.

(2) Body belts and safety straps shall meet the requirements of § 1926.959. In addition to being used as an employee safeguarding item, body belts with approved tool loops may be used for the purpose of holding tools. Body belts shall be free from additional metal hooks and tool loops other than those permitted in § 1926.959.

(3) Body belts and straps shall be inspected before use each day to determine that they are in safe working condition.

(4)(i) Life lines and lanyards shall comply with the provisions of § 1926.104.

(ii) Safety lines are not intended to be subjected to shock loading and are used for emergency rescue such as lowering a man to the ground. Such safety lines shall be a minimum of one-half-inch diameter and three or four strand first-grade manila or its equivalent in strength (2,650 lb.) and durability.

(5) Defective ropes shall be replaced.

(c) *Ladders.* (1) Portable metal or conductive ladders shall not be used near energized lines or equipment except as may be necessary in specialized work such as in high voltage substations where nonconductive ladders might present a greater hazard than conductive ladders. Conductive or metal ladders shall be prominently marked as conductive and all necessary precautions shall be taken when used in specialized work.

(2) Hook or other type ladders used in structures shall be positively secured to prevent the ladder from being accidentally displaced.

(d) *Live-line tools.* (1) Only live-line tool poles having a manufacturer's certification to withstand the following minimum tests shall be used:

(i) 100,000 volts per foot of length for 5 minutes when the tool is made of fiberglass; or

(ii) 75,000 volts per foot of length for 3 minutes when the tool is made of wood; or

(iii) Other tests equivalent to subdivision (i) or (ii) of this subparagraph as appropriate.

(2) All live-line tools shall be visually inspected before use each day. Tools to be used shall be wiped clean and if any hazardous defects are indicated such tools shall be removed from service.

(e) *Measuring tapes or measuring ropes.* Measuring tapes or measuring ropes which are metal or contain conductive strands shall not be used when working on or near energized parts.

(f) *Handtools.* (1) Switches for all powered hand tools shall comply with § 1926.300(d).

(2) All portable electric handtools shall:

(i) Be equipped with three-wire cord having the ground wire permanently connected to the tool frame and means for grounding the other end; or

(ii) Be of the double insulated type and permanently labeled as "Double Insulated"; or

(iii) Be connected to the power supply by means of an isolating transformer, or other isolated power supply.

(3) All hydraulic tools which are used on or around energized lines or equipment shall use nonconducting hoses having adequate strength for the normal operating pressures. It should be noted that the provisions of § 1926.302(d)(2) shall also apply.

(4) All pneumatic tools which are used on or around energized lines or equipment shall:

(i) Have nonconducting hoses having adequate strength for the normal operating pressures, and

(ii) Have an accumulator on the compressor to collect moisture.

§ 1926.952 Mechanical equipment.

(a) *General.* (1) Visual inspections shall be made of the equipment to determine that it is in good condition each day the equipment is to be used.

(2) Tests shall be made at the beginning of each shift during which the equipment is to be used to determine that the brakes and operating systems are in proper working condition.

(3) No employer shall use any motor vehicle equipment having an obstructed view to the rear unless:

(i) The vehicle has a reverse signal alarm audible above the surrounding noise level or;

(ii) The vehicle is backed up only when an observer signals that it is safe to do so.

(b) *Aerial lifts.* (1) The provisions of § 1926.556, Subpart N of this part, shall apply to the utilization of aerial lifts.

(2) When working near energized lines or equipment, aerial lift trucks shall be grounded or barricaded and considered as energized equipment, or the aerial lift truck shall be insulated for the work being performed.

(3) Equipment or material shall not be passed between a pole or structure and an aerial lift while an employee working from the basket is within reaching distance of energized conductors or equipment that are not covered with insulating protective equipment.

(c) *Derrick trucks, cranes and other lifting equipment.* (1) All derrick trucks, cranes and other lifting equipment shall comply with Subpart N and O of this part except:

(i) As stated in § 1926.550(a)(15) (i) and (ii) relating to clearance (for clearances in this subpart see Table V-1) and

(ii) Derrick truck (electric line trucks) shall not be required to comply with § 1926.550(a)(7)(vi), (a)(17), (b)(2), and (e).

(2) With the exception of equipment certified for work on the proper voltage, mechanical equipment shall not be operated closer to any energized line or equipment than the clearances set forth in § 1926.950(c) unless:

(i) An insulated barrier is installed between the energized part and the mechanical equipment, or

(ii) The mechanical equipment is grounded, or

(iii) The mechanical equipment is insulated, or

(iv) The mechanical equipment is considered as energized.

§ 1926.953 Material handling.

(a) *Unloading.* Prior to unloading steel, poles, cross arms and similar material, the load shall be thoroughly examined to ascertain if the load has shifted, binders or stakes have broken or the load is otherwise hazardous to employees.

(b) *Pole hauling.* (1) During pole hauling operations, all loads shall be secured to prevent displacement and a red flag shall be displayed at the trailing end of the longest pole.

(2) Precautions shall be exercised to prevent blocking of roadways or endangering other traffic.

(3) When hauling poles during the hours of darkness, illuminated warning devices shall be attached to the trailing end of the longest pole.

(c) *Storage.* (1) No materials or equipment shall be stored under energized bus, energized lines, or near energized equipment, if it is practical to store them elsewhere.

(2) When materials or equipment are stored under energized lines or near energized equipment, applicable clearances shall be maintained as stated in Table V-1; and extraordinary caution shall be exercised when moving materials near such energized equipment.

(d) *Tag line.* Where hazards to employees exist tag lines or other suitable devices shall be used to control loads being handled by hoisting equipment.

(e) *Oil filled equipment.* During construction or repair of oil filled equipment the oil may be stored in temporary containers other than those required in § 1926.152, such as pillow tanks.

(f) *Framing.* During framing operations, employees shall not work under a pole or a structure suspended by a crane, A-frame or similar equipment unless the pole or structure is adequately supported.

(g) *Attaching the load.* The hoist rope shall not be wrapped around the load. This provision shall not apply to electric construction crews when setting or removing poles.

§ 1926.954 Grounding for protection of employees.

(a) *General.* All conductors and equipment shall be treated as energized until tested or otherwise determined to be deenergized or until grounded.

(b) *New construction.* New lines or equipment may be considered deenergized and worked as such where:

(1) The lines or equipment are grounded, or

(2) The hazard of induced voltages is not present, and adequate clearances or other means are implemented to prevent contact with energized lines or equipment and the new lines or equipment.

(c) *Communication conductors.* Bare wire communication conductors on power poles or structures shall be treated as energized lines unless protected by insulating materials.

(d) *Voltage testing.* Deenergized conductors and equipment which are to be grounded shall be tested for voltage. Results of this voltage test shall determine the subsequent procedures as required in § 1926.950(d).

(e) *Attaching grounds.* (1) When attaching grounds, the ground end shall be attached first, and the other end shall be attached and removed by means of insulated tools or other suitable devices.

(2) When removing grounds, the grounding device shall first be removed from the line or equipment using insulating tools or other suitable devices.

(f) Grounds shall be placed between work location and all sources of energy and as close as practicable to the work location, or grounds shall be placed at the work location. If work is to be performed at more than one location in a line section, the line section must be grounded and short circuited at one location in the line section and the conductor to be worked on shall be grounded at each work location. The minimum distance shown in Table V-1 shall be maintained from ungrounded conductors at the work location. Where the making of a ground is impracticable, or the conditions resulting therefrom would be more hazardous than working on the lines or equipment without grounding, the grounds may be omitted and the line or equipment worked as energized.

(g) *Testing without grounds.* Grounds may be temporarily removed only when necessary for test purposes and extreme caution shall be exercised during the test procedures.

(h) *Grounding electrode.* When grounding electrodes are utilized, such electrodes shall have a resistance to ground low enough to remove the danger of harm to personnel or permit prompt operation of protective devices.

(i) *Grounding to tower.* Grounding to tower shall be made with a tower clamp capable of conducting the anticipated fault current.

(j) *Ground lead.* A ground lead, to be attached to either a tower ground or driven ground, shall be capable of conducting the anticipated fault current and shall have a minimum conductance of No. 2 AWG copper.

§ 1926.955 Overhead lines.

(a) *Overhead lines.* (1) When working on or with overhead lines the provisions of subparagraphs (2) through (8) of this section shall be complied with in addition to other applicable provisions of this subpart.

(2) Prior to climbing poles, ladders, scaffolds, or other elevated structures, an inspection shall be made to determine that the structures are capable of sustaining the additional or unbalanced stresses to which they will be subjected.

(3) Where poles or structures may be unsafe for climbing, they shall not be climbed until made safe by guying, bracing, or other adequate means.

(4) Before installing or removing wire or cable, strains to which poles and structures will be subjected shall be considered and necessary action taken to prevent failure of supporting structures.

(5)(i) When setting, moving, or removing poles using cranes, derricks, gin poles, A-frames, or other mechanized equipment near energized lines or equipment, precautions shall be taken to avoid contact with energized lines or equipment, except in bare-hand live-line work, or where barriers or protective devices are used.

(ii) Equipment and machinery operating adjacent to energized lines or equipment shall comply with § 1926.952(c)(2).

(6)(i) Unless using suitable protective equipment for the voltage involved, employees standing on the ground shall avoid contacting equipment or machinery working adjacent to energized lines or equipment.

(ii) Lifting equipment shall be bonded to an effective ground or it shall be considered energized and barricaded when utilized near energized equipment or lines.

(7) Pole holes shall not be left unattended or unguarded in areas where employees are currently working.

(8) Tag lines shall be of a nonconductive type when used near energized lines.

(b) *Metal tower construction.* (1) When working in unstable material the excavation for pad- or pile-type footings in excess of 5 feet deep shall be either sloped to the angle of repose as required in § 1926.652 or shored if entry is required. Ladders shall be provided for access to pad- or pile-type footing excavations in excess of 4 feet.

(2) When working in unstable material provision shall be made for cleaning out auger-type footings without requiring an employee to enter the footing unless shoring is used to protect the employee.

(3)(i) A designated employee shall be used in directing mobile equipment adjacent to footing excavations.

(ii) No one shall be permitted to remain in the footing while equipment is being spotted for placement.

(iii) Where necessary to assure the stability of mobile equipment the location of use for such equipment shall be graded and leveled.

(4)(i) Tower assembly shall be carried out with a minimum exposure of employees to falling objects when working at two or more levels on a tower.

(ii) Guy lines shall be used as necessary to maintain sections or parts of sections in position and to reduce the possibility of tipping.

(iii) Members and sections being assembled shall be adequately supported.

(5) When assembling and erecting towers the provisions of subdivisions (i), (ii) and (iii) of this subparagraph shall be complied with:

(i) The construction of transmission towers and the erecting of poles, hoisting machinery, site preparation machinery, and other types of construction machinery shall conform to the applicable requirements of this part.

(ii) No one shall be permitted under a tower which is in the process of erection or assembly, except as may be required to guide and secure the section being set.

(iii) When erecting towers using hoisting equipment adjacent to energized transmission lines, the lines shall be deenergized when practical. If the lines are not deenergized, extraordinary caution shall be exercised to maintain the minimum clearance distances required by § 1926.950(c), including Table V-1.

(6)(i) Erection cranes shall be set on firm level foundations and when the cranes are so equipped outriggers shall be used.

(ii) Tag lines shall be utilized to maintain control of tower sections being raised and positioned, except where the use of such lines would create a greater hazard.

(iii) The loadline shall not be detached from a tower section until the section is adequately secured.

(iv) Except during emergency restoration procedures erection shall be discontinued in the event of high wind or other adverse weather conditions which would make the work hazardous.

(v) Equipment and rigging shall be regularly inspected and maintained in safe operating condition.

(7) Adequate traffic control shall be maintained when crossing highways and railways with equipment as required by the provisions of § 1926.200(g) (1) and (2).

(8) A designated employee shall be utilized to determine that required clearance is maintained in moving equipment under or near energized lines.

(c) *Stringing or removing deenergized conductors.* (1) When stringing or removing deenergized conductors, the provisions of subparagraphs (2) through (12) of this paragraph shall be complied with.

(2) Prior to stringing operations a briefing shall be held setting forth the plan of operation and specifying the type of equipment to be used, grounding devices and procedures to be followed, crossover methods to be employed, and the clearance authorization required.

(3) Where there is a possibility of the conductor accidentally contacting an energized circuit or receiving a dangerous induced voltage buildup, to further protect the employee from the hazards of the conductor, the conductor being installed or removed shall be grounded or provisions made to insulate or isolate the employee.

(4)(i) If the existing line is deenergized, proper clearance authorization shall be secured and the line grounded on both sides of the crossover or, the line being strung or removed shall be considered and worked as energized.

(ii) When crossing over energized conductors in excess of 600 volts, rope nets or guard structures shall be installed unless provision is made to isolate or insulate the workman or the energized conductor. Where practical the automatic reclosing feature of the circuit interrupting device shall be made inoperative. In addition, the line being strung shall be grounded on either side of the crossover or considered and worked as energized.

(5) Conductors being strung in or removed shall be kept under positive control by the use of adequate tension reels, guard structures, tielines, or other means to prevent accidental contact with energized circuits.

(6) Guard structure members shall be sound and of adequate dimension and strength, and adequately supported.

(7)(i) Catch-off anchors, rigging, and hoists shall be of ample capacity to prevent loss of the lines.

(ii) The manufacturer's load rating shall not be exceeded for stringing lines, pulling lines, sock connections, and all load-bearing hardware and accessories.

(iii) Pulling lines and accessories shall be inspected regularly and replaced or repaired when damaged or when dependability is doubtful. The provisions of § 1926.251(c)(4)(ii) (concerning splices) shall not apply.

(8) Conductor grips shall not be used on wire rope unless designed for this application.

(9) While the conductor or pulling line is being pulled (in motion) employees shall not be permitted directly under overhead operations, nor shall any employee be permitted on the crossarm.

(10) A transmission clipping crew shall have a minimum of two structures clipped in between the crew and the conductor being sagged. When working on bare conductors, clipping and tying crews shall work between grounds at all times. The grounds shall remain intact until the conductors are clipped in, except on dead end structures.

(11)(i) Except during emergency restoration procedures, work from structures shall be discontinued when adverse weather (such as high wind or ice on structures) makes the work hazardous.

(ii) Stringing and clipping operations shall be discontinued during the progress of an electrical storm in the immediate vicinity.

(12)(i) Reel handling equipment, including pulling and braking machines, shall have ample capacity, operate smoothly, and be leveled and aligned in accordance with the manufacturer's operating instructions.

(ii) Reliable communications between the reel tender and pulling rig operator shall be provided.

(iii) Each pull shall be snubbed or dead ended at both ends before subsequent pulls.

(d) *Stringing adjacent to energized lines.* (1) Prior to stringing parallel to an existing energized transmission line a competent determination shall be made to ascertain whether dangerous induced voltage buildups will occur, particularly during switching and ground fault conditions. When there is a possibility that such dangerous induced voltage may exist the employer shall comply with the provisions of subparagraphs (2) through (9) of this paragraph in addition to the provisions of paragraph (c) of this § 1926.955, unless the line is worked as energized.

(2) When stringing adjacent to energized lines the tension stringing method or other methods which preclude unintentional contact between the lines being pulled and any employee shall be used.

(3) All pulling and tensioning equipment shall be isolated, insulated, or effectively grounded.

(4) A ground shall be installed between the tensioning reel setup and the first structure in order to ground each bare conductor, subconductor, and overhead ground conductor during stringing operations.

(5) During stringing operations, each bare conductor, subconductor, and overhead ground conductor shall be grounded at the first tower adjacent

to both the tensioning and pulling setup and in increments so that no point is more than 2 miles from a ground.

(i) The grounds shall be left in place until conductor installation is completed.

(ii) Such grounds shall be removed as the last phase of aerial cleanup.

(iii) Except for moving type grounds, the grounds shall be placed and removed with a hot stick.

(6) Conductors, subconductors, and overhead ground conductors shall be grounded at all dead-end or catch-off points.

(7) A ground shall be located at each side and within 10 feet of working areas where conductors, subconductors, or overhead ground conductors are being spliced at ground level. The two ends to be spliced shall be bonded to each other. It is recommended that splicing be carried out on either an insulated platform or on a conductive metallic grounding mat bonded to both grounds. When a grounding mat is used, it is recommended that the grounding mat be roped off and an insulated walkway provided for access to the mat.

(8)(i) All conductors, subconductors, and overhead ground conductors shall be bonded to the tower at any isolated tower where it may be necessary to complete work on the transmission line.

(ii) Work on dead-end towers shall require grounding on all deenergized lines.

(iii) Grounds may be removed as soon as the work is completed: *Provided*, That the line is not left open circuited at the isolated tower at which work is being completed.

(9) When performing work from the structures, clipping crews and all others working on conductors, subconductors, or overhead ground conductors shall be protected by individual grounds installed at every work location.

(e) *Live-line bare-hand work.* In addition to any other applicable standards contained elsewhere in this subpart all live-line bare-hand work shall be performed in accordance with the following requirements:

(1) Employees shall be instructed and trained in the live-line bare-hand technique and the safety requirements pertinent thereto before being permitted to use the technique on energized circuits.

(2) Before using the live-line bare-hand technique on energized high-voltage conductors or parts, a check shall be made of:

(i) The voltage rating of the circuit on which the work is to be performed;

(ii) The clearances to ground of lines and other energized parts on which work is to be performed; and

(iii) The voltage limitations of the aerial-lift equipment intended to be used.

(3) Only equipment designed, tested, and intended for live-line bare-hand work shall be used.

(4) All work shall be personally supervised by a person trained and qualified to perform live-line bare-hand work.

(5) The automatic reclosing feature of circuit interrupting devices shall be made inoperative where practical before working on any energized line or equipment.

(6) Work shall not be performed during the progress of an electrical storm in the immediate vicinity.

(7) A conductive bucket liner or other suitable conductive device shall be provided for bonding the insulated aerial device to the energized line or equipment.

(i) The employee shall be connected to the bucket liner by use of conductive shoes, leg clips, or other suitable means.

(ii) Where necessary, adequate electrostatic shielding for the voltage being worked or conductive clothing shall be provided.

(8) Only tools and equipment intended for live-line bare-hand work shall be used, and such tools and equipment shall be kept clean and dry.

(9) Before the boom is elevated, the outriggers on the aerial truck shall be extended and adjusted to stabilize the truck and the body of the truck shall be bonded to an effective ground, or barricaded and considered as energized equipment.

(10) Before moving the aerial lift into the work position, all controls (ground level and bucket) shall be checked and tested to determine that they are in proper working condition.

(11) Arm current tests shall be made before starting work each day, each time during the day when higher voltage is going to be worked and when changed conditions indicate a need for additional tests. Aerial buckets used for bare-hand live-line work shall be subjected to an arm current test. This test shall consist of placing the bucket in contact with an energized source equal to the voltage to be worked upon for a minimum time of three (3) minutes. The leakage current shall not exceed 1 microampere per kilo-volt of nominal line-to-line voltage. Work operations shall be suspended immediately upon any indication of a malfunction in the equipment.

(12) All aerial lifts to be used for live-line bare-hand work shall have dual controls (lower and upper) as required by subdivisions (i) and (ii) of this subparagraph.

(i) The upper controls shall be within easy reach of the employee in the basket. If a two basket type lift is used access to the controls shall be within easy reach from either basket.

(ii) The lower set of controls shall be located near base of the boom that will permit over-ride operation of equipment at any time.

(13) Ground level lift control shall not be operated unless permission has been obtained from the employee in lift, except in case of emergency.

(14) Before the employee contacts the energized part to be worked on, the conductive bucket liner shall be bonded to the energized conductor by means of a positive connection which shall remain attached to the energized conductor until the work on the energized circuit is completed.

(15) The minimum clearance distances for live-line bare-hand work shall be as specified in Table V-2. These minimum clearance distances shall be maintained from all grounded objects and from lines and equipment at a different potential than that to which the insulated aerial device is bonded unless such grounded objects or other lines and equipment are covered by insulated guards. These distances shall be maintained when approaching, leaving, and when bonded to the energized circuit.

TABLE V-2

MINIMUM CLEARANCE DISTANCES FOR LIVE-LINE BARE-HAND WORK (ALTERNATING CURRENT)

Voltage range (phase-to-phase) kilovolts	Distance in feet and inches for maximum voltage	
	Phase to ground	Phase to phase
2.1-15	2'0"	2'0"
15.1-35	2'4"	2'4"
35.1-46	2'6"	2'6"
46.1-72.5	3'0"	3'0"
72.6-121	3'4"	4'6"
138-145	3'6"	5'0"
161-169	3'8"	5'6"
230-242	5'0"	8'4"
345-362	[1] 7'0"	[1] 13'4"
500-552	[1] 11'0"	[1] 20'0"
700-765	[1] 15'0"	[1] 31'0"

[1] NOTE: For 345-362kv., 500-552kv., and 700-765kv., the minimum clearance distance may be reduced provided the distances are not made less than the shortest distance between the energized part and a grounded surface.

(16) When approaching, leaving, or bonding to an energized circuit the minimum distances in Table V-2 shall be maintained between all parts of the insulated boom assembly and any grounded parts (including the lower arm or portions of the truck).

(17) When positioning the bucket alongside an energized bushing or insulator string, the minimum line-to-ground clearances of Table V-2 must be maintained between all parts of the bucket and the grounded end of the bushing or insulator string.

(18)(i) The use of handlines between buckets, booms, and the ground is prohibited.

(ii) No conductive materials over 36 inches long shall be placed in the bucket, except for appropriate length jumpers, armor rods, and tools.

(iii) Nonconductive-type handlines may be used from line to ground when not supported from the bucket.

(19) The bucket and upper insulated boom shall not be overstressed by attempting to lift or support weights in excess of the manufacturer's rating.

(20)(i) A minimum clearance table (as shown in table V-2) shall be printed on a plate of durable nonconductive material, and mounted in the buckets or its vicinity so as to be visible to the operator of the boom.

(ii) It is recommended that insulated measuring sticks be used to verify clearance distances.

§ 1926.956 Underground lines.

(a) *Guarding and ventilating street opening used for access to underground lines or equipment.* (1) Appropriate warning signs shall be promptly placed when covers of manholes, handholes, or vaults are removed. What is an appropriate warning sign is dependent upon the nature and location of the hazards involved.

(2) Before an employee enters a street opening, such as a manhole or an unvented vault, it shall be promptly protected with a barrier, temporary cover, or other suitable guard.

(3) When work is to be performed in a manhole or unvented vault:

(i) No entry shall be permitted unless forced ventilation is provided or the atmosphere is found to be safe by testing for oxygen deficiency and the presence of explosive gases or fumes;

(ii) Where unsafe conditions are detected, by testing or other means, the work area shall be ventilated and otherwise made safe before entry;

(iii) Provisions shall be made for an adequate continuous supply of air.

(b) *Work in manholes.* (1) While work is being performed in manholes, an employee shall be available in the immediate vicinity to render emergency assistance as may be required. This shall not preclude the employee in the immediate vicinity from occasionally entering a manhole to provide assistance, other than emergency. This requirement does not preclude a qualified employee, working alone, from entering for brief periods of time, a manhole where energized cables or equipment are in service, for the purpose of inspection, housekeeping, taking readings, or similar work if such work can be performed safely.

(2) When open flames must be used or smoking is permitted in manholes, extra precautions shall be taken to provide adequate ventilation.

(3) Before using open flames in a manhole or excavation in an area where combustible gases or liquids may be present, such as near a gasoline service station, the atmosphere of the manhole or excavation shall be tested and found safe or cleared of the combustible gases or liquids.

(c) *Trenching and excavating.* (1) During excavation or trenching, in order to prevent the exposure of employees to the hazards created by damage to dangerous underground facilities, efforts shall be made to determine the location of such facilities and work conducted in a manner designed to avoid damage.

(2) Trenching and excavation operations shall comply with §§ 1926.651 and 1926.652.

(3) When underground facilities are exposed (electric, gas, water, telephone, etc.) they shall be protected as necessary to avoid damage.

(4) Where multiple cables exist in an excavation, cables other than the one being worked on shall be protected as necessary.

(5) When multiple cables exist in an excavation, the cable to be worked on shall be identified by electrical means unless its identity is obvious by reason of distinctive appearance.

(6) Before cutting into a cable or opening a splice, the cable shall be identified and verified to be the proper cable.

(7) When working on buried cable or on cable in manholes, metallic sheath continuity shall be maintained by bonding across the opening or by equivalent means.

§ 1926.957 Construction in energized substations.

(a) *Work near energized equipment facilities.* (1) When construction work is performed in an energized substation, authorization shall be obtained from the designated, authorized person before work is started.

(2) When work is to be done in an energized substation, the following shall be determined:

(i) What facilities are energized, and

(ii) What protective equipment and precautions are necessary for the safety of personnel.

(3) Extraordinary caution shall be exercised in the handling of busbars, tower steel, materials, and equipment in the vicinity of energized facilities. The requirements set forth in § 1926.950(c), shall be complied with.

(b) *Deenergized equipment or lines.* When it is necessary to deenergize equipment or lines for protection of employees, the requirements of § 1926.950(d) shall be complied with.

(c) *Barricades and barriers.* (1) Barricades or barriers shall be installed to prevent accidental contact with energized lines or equipment.

(2) Where appropriate, signs indicating the hazard shall be posted near the barricade or barrier. These signs shall comply with § 1926.200.

(d) *Control panels.* (1) Work on or adjacent to energized control panels shall be performed by designated employees.

(2) Precaution shall be taken to prevent accidental operation of relays or other protective devices due to jarring, vibration, or improper wiring.

(e) *Mechanized equipment.* (1) Use of vehicles, gin poles, cranes, and other equipment in restricted or hazardous areas shall at all times be controlled by designated employees.

(2) All mobile cranes and derricks shall be effectively grounded when being moved or operated in close proximity to energized lines or equipment, or the equipment shall be considered energized.

(3) Fenders shall not be required for lowboys used for transporting large electrical equipment, transformers, or breakers.

(f) *Storage.* The storage requirements of § 1926.953(c) shall be complied with.

(g) *Substation fences.* (1) When a substation fence must be expanded or removed for construction purposes, a temporary fence affording similar protection when the site is unattended, shall be provided. Adequate interconnection with ground shall be maintained between temporary fence and permanent fence.

(2) All gates to all unattended substations shall be locked, except when work is in progress.

(h) *Footing excavation.* (1) Excavation for auger, pad and piling type footings for structures and towers shall require the same precautions as for metal tower construction (see § 1926.955(b)(1)).

(2) No employee shall be permitted to enter an unsupported auger-type excavation in unstable material for any purpose. Necessary clean-out in such cases shall be accomplished without entry.

§ 1926.958 External load helicopters.

In all operations performed using a rotorcraft for moving or placing external loads, the provisions of § 1926.551 of Subpart N of this part shall be complied with.

§ 1926.959 Lineman's body belts, safety straps, and lanyards.

(a) *General requirements.* The requirements of paragraphs (a) and (b) of this section shall be complied with for all lineman's body belts, safety straps and lanyards acquired for use after the effective date of this subpart.

(1) Hardware for lineman's body belts, safety straps, and lanyards shall

be drop forged or pressed steel and have a corrosive resistive finish tested to American Society for Testing and Materials B117-64 (50-hour test). Surfaces shall be smooth and free of sharp edges.

(2) All buckles shall withstand a 2,000-pound tensile test with a maximum permanent deformation no greater than one sixty-fourth inch.

(3) D rings shall withstand a 5,000-pound tensile test without failure. Failure of a D ring shall be considered cracking or breaking.

(4) Snaphooks shall withstand a 5,000-pound tensile test without failure. Failure of a snaphook shall be distortion sufficient to release the keeper.

(b) *Specific requirements.* (1)(i) All fabric used for safety straps shall withstand an A.C. dielectric test of not less than 25,000 volts per foot "dry" for 3 minutes, without visible deterioration.

(ii) All fabric and leather used shall be tested for leakage current and shall not exceed 1 milliampere when a potention of 3,000 volts is applied to the electrodes positioned 12 inches apart.

(iii) Direct current tests may be permitted in lieu of alternating current tests.

(2) The cushion part of the body belt shall:

(i) Contain no exposed rivets on the inside;

(ii) Be at least three (3) inches in width;

(iii) Be at least five thirty-seconds (5/32) inch thick, if made of leather; and

(iv) Have pocket tabs that extended at least 1½ inches down and three (3) inches back of the inside of circle of each D ring for riveting on plier or tool pockets. On shifting D belts, this measurement for pocket tabs shall be taken when the D ring section is centered.

(3) A maximum of four (4) tool loops shall be so situated on the body belt that four (4) inches of the body belt in the center of the back, measuring from D ring to D ring, shall be free of tool loops, and any other attachments.

(4) Suitable copper, steel, or equivalent liners shall be used around bar of D rings to prevent wear between these members and the leather or fabric enclosing them.

(5) All stitching shall be of a minimum 42-pound weight nylon or equivalent thread and shall be lock stitched. Stitching parallel to an edge shall not be less than three-sixteenths (3/16) inch from edge of narrowest member caught by the thread. The use of cross stitching on leather is prohibited.

(6) The keeper of snaphooks shall have a spring tension that will not allow the keeper to begin to open with a weight of 2½ pounds or less, but the keeper of snaphooks shall begin to open with a weight of four (4) pounds, when the weight is supported on the keeper against the end of the nose.

(7) Testing of lineman's safety straps, body belts and lanyards shall be in accordance with the following procedure:

(i) Attach one end of the safety strap or lanyard to a rigid support, the other end shall be attached to a 250-pound canvas bag of sand:

(ii) Allow the 250-pound canvas bag of sand to free fall 4 feet for (safety strap test) and 6 feet for (lanyard test); in each case stopping the fall of the 250-pound bag:

(iii) Failure of the strap or lanyard shall be indicated by any breakage, or slippage sufficient to permit the bag to fall free of the strap or lanyard. The entire "body belt assembly" shall be tested using one D ring. A safety strap or lanyard shall be used that is capable of passing the "impact loading test" and attached as required in subdivision (i) of this subparagraph. The body belt shall be secured to the 250-pound bag of sand at a point to simulate the waist of a man and allowed to drop as stated in subdivision (ii) of this subparagraph. Failure of the body belt shall be indicated by any breakage, or slippage sufficient to permit the bag to fall free of the body belt.

§ 1926.960 Definitions applicable to this subpart.

(a) *Alive or live (energized).* The term means electrically connected to a source of potential difference, or electrically charged so as to have a potential significantly different from that of the earth in the vicinity. The term "live" is sometimes used in place of the term "current-carrying," where the intent is clear, to avoid repetition of the longer term.

(b) *Automatic circuit recloser.* The term means a self-controlled device for automatically interrupting and reclosing an alternating current circuit with a predetermined sequence of opening and reclosing followed by resetting, hold closed, or lockout operation.

(c) *Barrier.* The term means a physical obstruction which is intended to prevent contact with energized lines or equipment.

(d) *Barricade.* The term means a physical obstruction such as tapes, screens, or cones intended to warn and limit access to a hazardous area.

(e) *Bond.* The term means an electrical connection from one conductive element to another for the purpose of minimizing potential differences or providing suitable conductivity for fault current or for mitigation of leakage current and electrolytic action.

(f) *Bushing.* The term means an insulating structure including a through conductor, or providing a passageway for such a conductor, with provision for mounting on a barrier, conducting or otherwise, for the purpose of insulating the conductor from the barrier and conducting current from one side of the barrier to the other.

(g) *Cable.* The term means a conductor with insulation, or a stranded conductor with or without insulation and other coverings (single-conductor cable) or a combination of conductors insulated from one another (multiple-conductor cable).

(h) *Cable sheath.* The term means a protective covering applied to cables.

NOTE: A cable sheath may consist of multiple layers of which one or more is conductive.

(i) *Circuit.* The term means a conductor or system of conductors through which an electric current is intended to flow.

(j) *Communication lines.* The term means the conductors and their supporting or containing structures which are used for public or private signal or communication service, and which operate at potentials not exceeding 400 volts to ground or 750 volts between any two points of the circuit, and the transmitted power of which does not exceed 150 watts. When operating at less than 150 volts no limit is placed on the capacity of the system.

NOTE: Telephone, telegraph, railroad signal, data, clock, fire, police-alarm, community television antenna, and other systems conforming with the above are included. Lines used for signaling purposes, but not included under the above definition, are considered as supply lines of the same voltage and are to be so run.

(k) *Conductor.* The term means a material, usually in the form of a wire, cable, or bus bar suitable for carrying an electric current.

(l) *Conductor shielding.* The term means an envelope which encloses the conductor of a cable and provides an equipotential surface in contact with the cable insulation.

(m) *Current-carrying part.* The term means a conducting part intended to be connected in an electric circuit to a source of voltage. Non-current-carrying parts are those not intended to be so connected.

(n) *Dead (deenergized).* The term means free from any electrical connection to a source of potential difference and from electrical charges: Not having a potential difference from that of earth.

NOTE: The term is used only with reference to current-carrying parts which are sometimes alive (energized).

(o) *Designated employee.* The term means a qualified person delegated to perform specific duties under the conditions existing.

(p) *Effectively grounded.* The term means intentionally connected to earth through a ground connection or connections of sufficiently low impedance and having sufficient current-carrying capacity to prevent the buildup of voltages which may result in undue hazard to connected equipment or to persons.

(q) *Electric line trucks.* The term means a truck used to transport men, tools, and material, and to serve as a traveling workshop for electric power line construction and maintenance work. It is sometimes equipped with a boom and auxiliary equipment for setting poles, digging holes, and elevating material or men.

(r) *Enclosed.* The term means surrounded by a case, cage, or fence, which will protect the contained equipment and prevent accidental contact of a person with live parts.

(s) *Equipment.* This is a general term which includes fittings, devices, appliances, fixtures, apparatus, and the like, used as part of, or in connection with, an electrical power transmission and distribution system, or communication systems.

(t) *Exposed.* The term means not isolated or guarded.

(u) *Electric supply lines.* The term means those conductors used to transmit electric energy and their necessary supporting or containing structures. Signal lines of more than 400 volts to ground are always supply lines within the meaning of the rules, and those of less than 400 volts to ground may be considered as supply lines, if so run and operated throughout.

(v) *Guarded.* The term means protected by personnel, covered, fenced, or enclosed by means of suitable casings, barrier rails, screens, mats, platforms, or other suitable devices in accordance with standard barricading techniques designed to prevent dangerous approach or contact by persons or objects.

NOTE: Wires, which are insulated but not otherwise protected, are not considered as guarded.

(w) *Ground.* (*Reference*). The term means that conductive body, usually earth, to which an electric potential is referenced.

(x) *Ground* (*as a noun*). The term means a conductive connection whether intentional or accidental, by which an electric circuit or equipment is connected to reference ground.

(y) *Ground* (*as a verb*). The term means the connecting or establishment of a connection, whether by intention or accident of an electric circuit or equipment to reference ground.

(z) *Grounding electrode* (*ground electrode*). The term grounding electrode means a conductor embedded in the earth, used for maintaining ground potential on conductors connected to it, and for dissipating into the earth current conducted to it.

(aa) *Grounding electrode resistance.* The term means the resistance of the grounding electrode to earth.

(bb) *Grounding electrode conductor* (*grounding conductor*). The term means a conductor used to connect equipment or the grounded circuit of a wiring system to a grounding electrode.

(cc) *Grounded conductor.* The term means a system or circuit conductor which is intentionally grounded.

(dd) *Grounded system.* The term means a system of conductors in which at least one conductor or point (usually the middle wire, or neutral point of transformer or generator windings) is intentionally grounded, either solidly or through a current-limiting device (not a current-interrupting device).

(ee) *Hotline tools and ropes.* The term means those tools and ropes which are especially designed for work on energized high voltage lines and equipment. Insulated aerial equipment especially designed for work on energized high voltage lines and equipment shall be considered hot line.

(ff) *Insulated.* The term means separated from other conducting surfaces by a dielectric substance (including air space) offering a high resistance to the passage of current.

NOTE: When any object is said to be insulated, it is understood to be insulated in suitable manner for the conditions to which it is subjected. Otherwise, it is within the purpose of this subpart, uninsulated. Insulating covering of conductors is one means of making the conductor insulated.

(gg) *Insulation* (*as applied to cable*). The term means that which is relied upon to insulate the conductor from other conductors or conducting parts or from ground.

(hh) *Insulation shielding.* The term means an envelope which encloses the insulation of a cable and provides an equipotential surface in contact with cable insulation.

(ii) *Isolated.* The term means an object that is not readily accessible to persons unless special means of access are used.

(jj) *Manhole.* The term means a subsurface enclosure which personnel may enter and which is used for the purpose of installing, operating, and maintaining equipment and/or cable.

(kk) *Pulling tension.* The term means the longitudinal force exerted on a cable during installation.

(ll) *Qualified person.* The term means a person who by reason of experience or training is familiar with the operation to be performed and the hazards involved.

(mm) *Switch.* The term means a device for opening and closing or changing the connection of a circuit. In these rules, a switch is understood to be manually operable, unless otherwise stated.

(nn) *Tag.* The term means a system or method of identifying circuits, systems or equipment for the purpose of alerting persons that the circuit, system or equipment is being worked on.

(oo) *Unstable material.* The term means earth material, other than running, that because of its nature or the influence of related conditions, cannot be depended upon to remain in place without extra support, such as would be furnished by a system of shoring.

(pp) *Vault.* The term means an enclosure above or below ground which personnel may enter and is used for the purpose of installing, operating, and/or maintaining equipment and/or cable.

(qq) *Voltage.* The term means the effective (rms) potential difference between any two conductors or between a conductor and ground. Voltages are expressed in nominal values. The nominal voltage of a system or circuit is the value assigned to a system or circuit of a given voltage class for the purpose of convenient designation. The operating voltage of the system may vary above or below this value.

(rr) *Voltage of an effectively grounded circuit.* The term means the voltage between any conductor and ground unless otherwise indicated.

(ss) *Voltage of a circuit not effectively grounded.* The term means the voltage between any two conductors. If one circuit is directly connected to and supplied from another circuit of higher voltage (as in the case of an autotransformer), both are considered as of the higher voltage, unless the circuit of lower voltage is effectively grounded, in which case its voltage is not determined by the circuit of higher voltage. Direct connection implies electric connection as distinguished from connection merely through electromagnetic or electrostatic induction.

Subpart W—Rollover Protective Structures; Overhead Protection

Sec.
1926.1000 Rollover protective structures (ROPS) for material handling equipment.
1926.1001 Minimum performance criteria for rollover protective structures for designated scrapers, loaders, dozers, graders, and crawler tractors.
1926.1002 Protective frame (ROPS) test procedures and performance requirements for wheel-type agricultural and industrial tractors used in construction.
1926.1003 Overhead protection for operators of agricultural and industrial tractors.

§ 1926.1000 Rollover protective structures (ROPS) for material handling equipment.

(a) *Coverage.* (1) This section applies to the following types of material handling equipment: To all rubber-tired, self-propelled scrapers, rubber-tired front-end loaders, rubber-tired dozers, wheel-type agricultural and industrial tractors, crawler tractors, crawler-type loaders, and motor graders, with or without attachments, that are used in construction work. This requirement does not apply to sideboom pipelaying tractors.

(2) The promulgation of specific standards for rollover protective structures for compactors and rubber-tired skid-steer equipment is reserved pending consideraton of standards currently being developed.

(b) *Equipment manufactured on or after September 1, 1972.* Material handling machinery described in paragraph (a) of this section and manufactured on or after September 1, 1972, shall be equipped with rollover protective structures which meet the minimum performance standards prescribed in §§ 1926.1001 and 1926.1002, as applicable.

(c) *Equipment manufactured before September 1, 1972.* (1) All material handling equipment described in paragraph (a) of this section and manufactured or placed in service (owned or operated by the employer) prior to September 1, 1972, shall be fitted with rollover protective structures no later than the dates listed below:

(i) Machines manufactured on or after January 1, 1972, shall be fitted no later than April 1, 1973.

(ii) Machines manufactured between July 1, 1971, and December 31, 1971, shall be fitted no later than July 1, 1973.

(iii) Machines manufactured between July 1, 1970, and June 30, 1971, shall be fitted no later than January 1, 1974.

(iv) Machines manufactured between July 1, 1969, and June 30, 1970, shall be fitted no later than July 1, 1974.

(v) Machines manufactured before July 1, 1969: Reserved pending further study, development, and review.

(2) Rollover protective structures and supporting attachment shall meet the minimum performance criteria detailed in §§ 1926.1001 and 1926.1002, as applicable or shall be designed, fabricated, and installed in a manner which will support, based on the ultimate strength of the metal, at least two times the weight of the prime mover applied at the point of impact.

(i) The design objective shall be to minimize the likelihood of a complete overturn and thereby minimize the possibility of the operator being crushed as a result of a rollover or upset.

(ii) The design shall provide a vertical clearance of at least 52 inches from the work deck to the ROPS at the point of ingress or egress.

(d) *Remounting.* ROPS removed for any reason, shall be remounted with equal quality, or better, bolts or welding as required for the original mounting.

(e) *Labeling.* Each ROPS shall have the following information permanently affixed to the structure:

(1) Manufacturer or fabricator's name and address;

(2) ROPS model number, if any;

(3) Machine make, model, or series number that the structure is designed to fit.

(f) *Machines meeting certain existing governmental requirements.* Any machine in use, equipped with rollover protective structures, shall be deemed in compliance with this section if it meets the rollover protective structure requirements of the State of California, the U.S. Army Corps of Engineers, or the Bureau of Reclamation of the U.S. Department of the Interior in effect on April 5, 1972. The requirements in effect are:

(1) State of California: Construction Safety Orders, issued by the Department of Industrial Relations pursuant to Division 5, Labor Code, § 6312, State of California.

(2) U.S. Army Corps of Engineers: General Safety Requirements, EM-385-1-1 (March 1967).

(3) Bureau of Reclamation, U.S. Department of the Interior: Safety and Health Regulations for Construction. Part II (September 1971).

§ 1926.1001 Minimum performance criteria for rollover protective structures for designated scrapers, loaders, dozers, graders, and crawler tractors.

(a) *General.* This section prescribes minimum performance criteria for rollover protective structures (ROPS) for rubber-tired self-propelled scrapers; rubber-tired front-end loaders and rubber-tired dozers; crawler tractors, and crawler-type loaders, and motor graders. The vehicle and ROPS as a system shall have the structural characteristics prescribed in paragraph (f) of this section for each type of machine described in this paragraph.

(b) The static laboratory test prescribed herein will determine the adequacy of the structures used to protect the operator under the following conditions:

(1) For rubber-tired self-propelled scrapers, rubber-tired front-end loaders, and rubber-tired dozers: Operating between 0 and 10 miles per hour over hard clay where rollover would be limited to a maximum roll angle of 360° down a slope of 30° maximum.

(2) For motor graders: Operating between 0 and 10 miles per hour over hard clay where rollover would be limited to 360° down a slope of 30° maximum.

(3) For crawler tractors and crawler-type loaders: Operating between 0 and 10 miles per hour over hard clay where rollover would be limited to a maximum roll angle of 360° down a slope of 45°.

(c) *Facilities and apparatus.* (1) The following material is necessary:

(i) Material, equipment, and tiedown means adequate to insure that the ROPS and its vehicle frame absorb the applied energy.

(ii) Equipment necessary to measure and apply loads to the ROPS. Adequate means to measure deflections and lengths should also be provided.

(iii) Recommended, but not mandatory, types of test setups are illustrated in Figure W-1 for all types of equipment to which this section applies; and in Figure W-2 for rubber-tired self-propelled scrapers; Figure W-3 for rubber-tired front-end loaders, rubber-tired dozers, and motor graders; and Figure W-4 for crawler tractors and crawler-type loaders.

(2) Table W-1 contains a listing of the required apparatus for all types of equipment described in paragraph (a) of this section.

TABLE W-1

Means to measure	*Accuracy*
Deflection of ROPS, inches.	±5% of deflection measured.
Vehicle weight, pounds.	±5% of the weight measured.
Force applied to frame, pounds.	±5% of force measured.
Dimensions of critical zone, inches.	±0.5 in.

(d) *Vehicle condition.* The ROPS to be tested must be attached to the vehicle structure in the same manner as it will be attached during vehicle use. A totally assembled vehicle is not required. However, the vehicle structure and frame which support the ROPS must represent the actual vehicle installation. All normally detachable windows, panels, or nonstructural fittings shall be removed so that they do not contribute to the strength of the ROPS.

(e) *Test procedure.* The test procedure shall include the following, in the sequence indicated:

(1) Energy absorbing capabilities of ROPS shall be verified when loaded laterally by incrementally applying a distributed load to the longitudinal outside top member of the ROPS, as shown in Figure W-1, W-2, or W-3, as applicable. The distributed load must be applied so as to result in approximately uniform deflection of the ROPS. The load increments should correspond with approximately 0.5 in. ROPS deflection increment in the direction of the load application, meas-

ured at the ROPS top edge. Should the operator's seat be offcenter, the load shall be applied on the offcenter side. For each applied load increment, the total load (lb.) versus corresponding deflection (in.) shall be plotted, and the area under the load-deflection curve shall be calculated. This area is equal to the energy (in.-lb.) absorbed by the ROPS. For a typical load-deflection curve and calculation method, see Figure W-5.

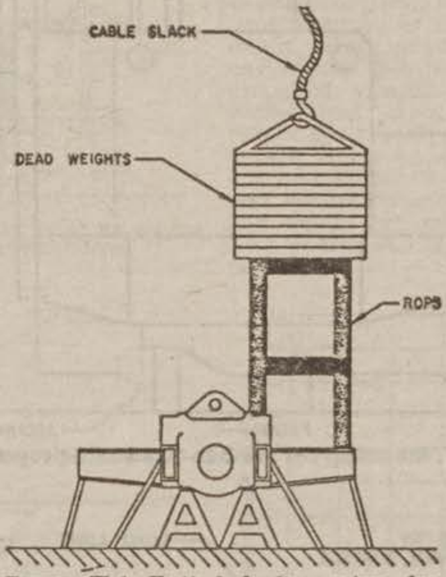

FIGURE W-1—Vertical loading setup for all types of equipment described in § 1518.1001(a).

Incremental loading shall be continued until the ROPS has absorbed the amount of energy and the minimum applied load specified under paragraph (f) of this section has been reached or surpassed.

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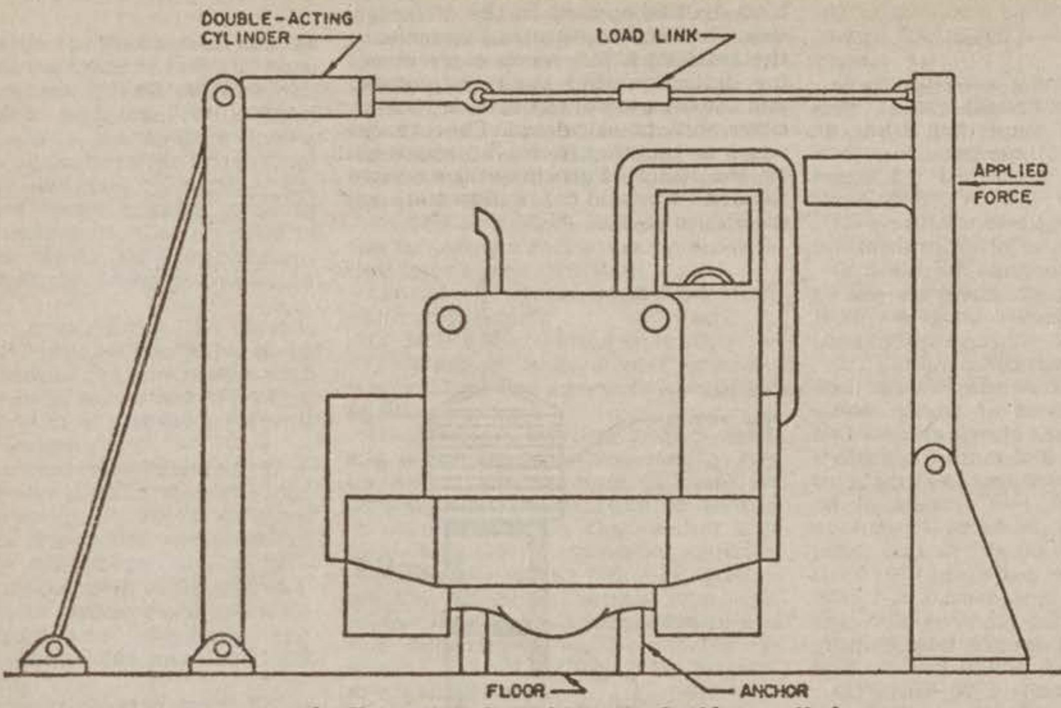


FIGURE W-2—Test setup for rubber-tired self-propelled scrapers.

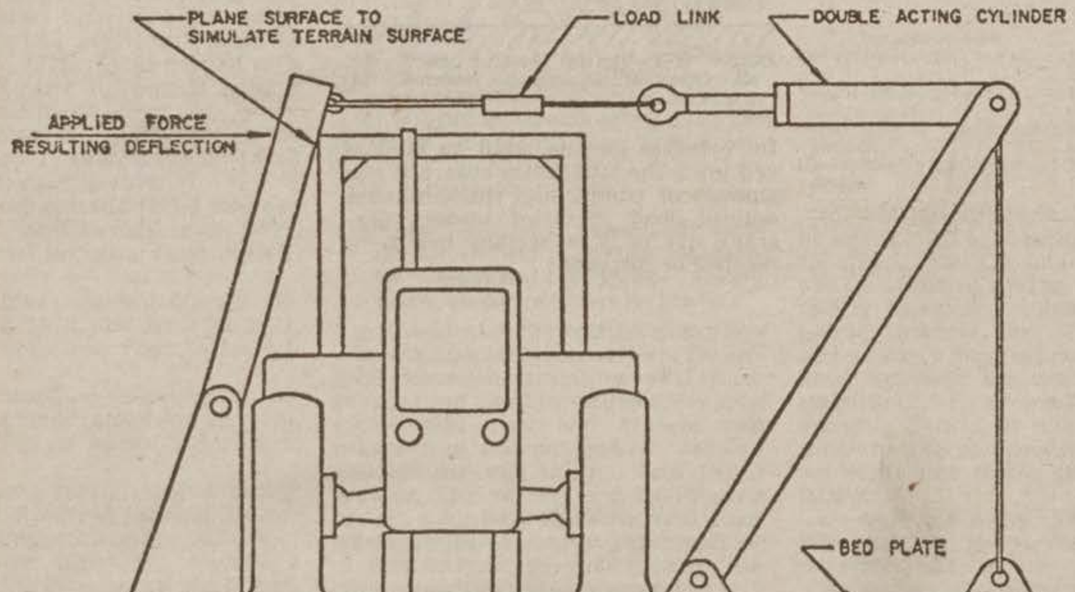


FIGURE W-3—Test setup for rubber-tired front-end loaders, rubber-tired dozers, and motor graders.

(2) To cover the possibility of the vehicle coming to rest on its top, the support capability shall be verified by applying a distributed vertical load to the top of the ROPS so as to result in approximately uniform deflection (see Figure W-1). The load magnitude is specified in paragraph (f)(2)(iii) of this section.

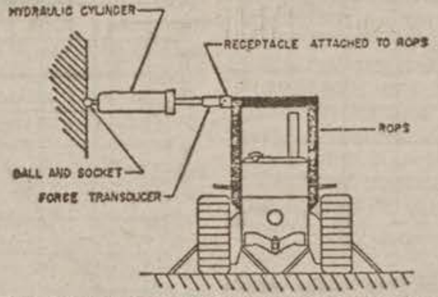
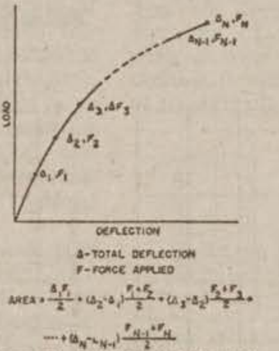


FIGURE W-4—Side-loading setup for crawler tractors and crawler loaders.



$$\text{AREA} = \frac{\Delta_1 F_1}{2} + (\Delta_2 - \Delta_1)\frac{F_1 + F_2}{2} + (\Delta_3 - \Delta_2)\frac{F_2 + F_3}{2} + \cdots + (\Delta_N - \Delta_{N-1})\frac{F_{N-1} + F_N}{2}$$

FIGURE W-5—Determination of energy area under force deflection curve for all types of ROPS equipment defined in § 1926.1001.

(3) The low temperature impact strength of the material used in the ROPS shall be verified by suitable material tests or material certification (see paragraph (f)(2)(iv) of this section).

(f) *Performance requirements*—(1) *General performance requirements.* (i) No repairs or straightening of any member shall be carried out between each prescribed test.

(ii) During each test, no part of the ROPS shall enter the critical zone as detailed in SAE J397 (1969). Deformation of the ROPS shall not allow the plane of the ground to enter this zone.

(2) *Specific performance requirements.* (i) The energy requirement for purposes of meeting the requirements of paragraph (e)(1) of this section is to be determined by referring to the plot of the energy versus weight of vehicle (see Figure W-6 for rubber-tired self-propelled scrapers; Figure W-7 for rubber-tired front-end loaders and rubber-tired dozers; Figure W-8 for crawler tractors and crawler-type loaders; and Figure W-9 for motor graders). For purposes of this section, force and weight are measured as pounds (lb.); energy (U) is measured as inch-pounds.

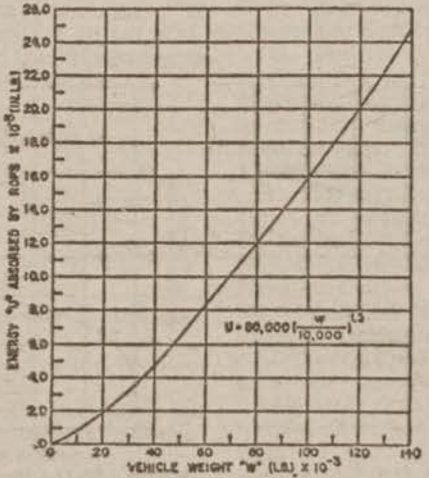


FIGURE W-6—Energy absorbed versus vehicle weight.

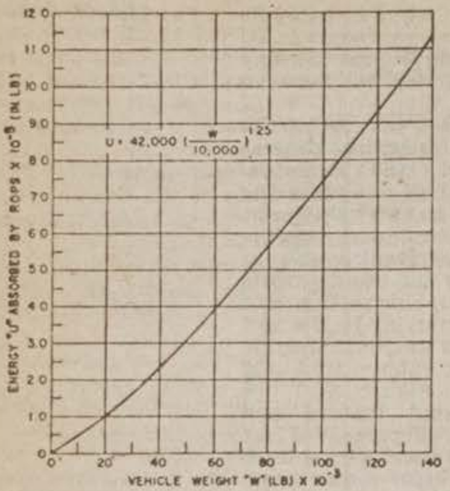


FIGURE W-7—Energy absorbed versus vehicle weight.

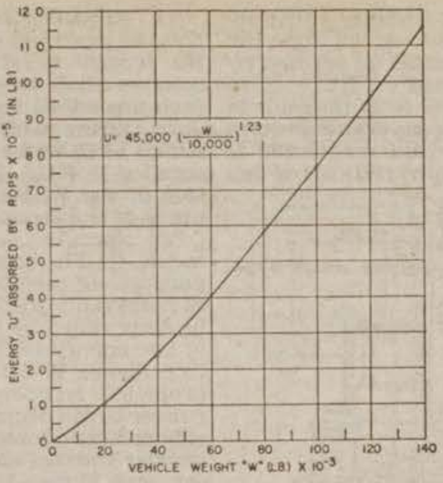


FIGURE W-8—Energy absorbed versus vehicle weight.

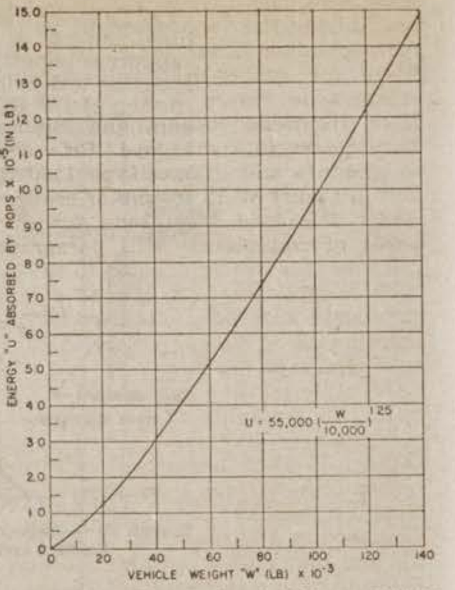


FIGURE W-9—Energy absorbed Versus Vehicle Weight.

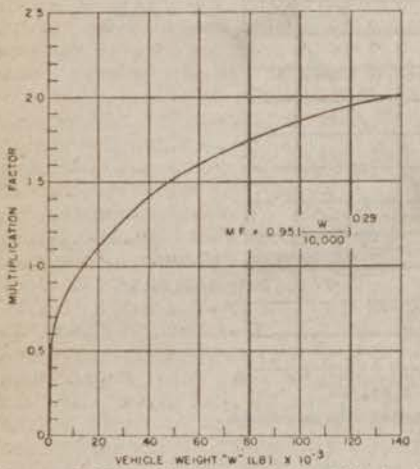


FIGURE W-10—Minimum horizontal load factor for self-propelled scrapers.

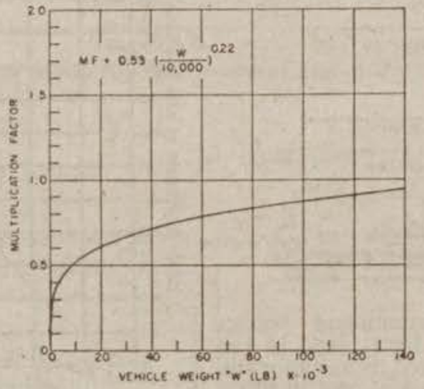


FIGURE W-11—Minimum horizontal load factor for rubber-tired loaders and dozers.

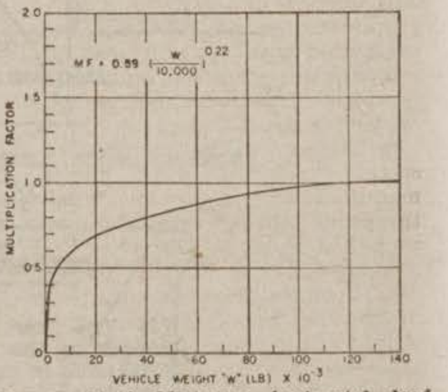


FIGURE W-12—Minimum horizontal load factor for crawler tractors and crawler-type loaders.

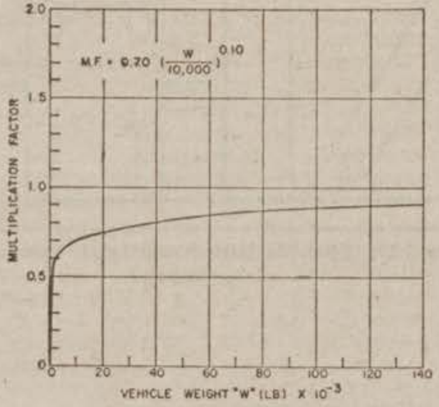


FIGURE W-13—Minimum horizontal load factor for motor graders.

(ii) The applied load must attain at least a value which is determined by multiplying the vehicle weight by the corresponding factor shown in Figure W-10 for rubber-tired self-propelled scrapers; in Figure W-11 for rubber-tired front-end loaders and rubber-tired dozers; in Figure W-12 for crawler tractors and crawler-type loaders; and in Figure W-13 for motor graders.

(iii) The load magnitude for purposes of compliance with paragraph (e)(2) of this section is equal to the vehicle weight. The test of load magnitude shall only be made after the requirements of subparagraph (2)(i) of this paragraph are met.

(iv) Material used in the ROPS must have the capability of performing at zero degrees Fahrenheit, or exhibit Charpy V notch impact strength of 8 foot-pounds at minus 20° Fahrenheit. This is a standard Charpy specimen as described in American Society of Testing and Materials A 370, Methods and Definitions for Mechanical Testing of Steel Products (available at each Regional Office of the Occupational Safety and Health Administration). The purpose of this requirement is to reduce the tendency of brittle fracture associated with dynamic loading, low temperature operation, and stress raisers which cannot be entirely avoided on welded structures.

(g) *Definitions.* For purposes of this section, "vehicle weight" means the manufacturer's maximum weight of the prime mover for rubber-tired self-propelled scrapers. For other types of equipment to which this section applies, "vehicle weight" means the manufacturer's maximum recommended weight of the vehicle plus the heaviest attachment.

(h) *Source of standard.* This standard is derived from, and restates, the following Society of Automotive Engineers Recommended Practices: SAE J320a, Minimum Performance Criteria for Roll-Over Protective Structure for Rubber-Tired, Self-Propelled Scrapers; SAE J394, Minimum Performance Criteria for Roll-Over Protective Structure for Rubber-Tired Front End Loaders and Rubber-Tired Dozers; SAE J395, Minimum Performance Criteria for Roll-Over Protective Structure for Crawler Tractors and Crawler-Type Loaders; and SAE J396, Minimum Performance Criteria for Roll-Over Protective Structure for Motor Graders. These recommended practices shall be resorted to in the event that questions of interpretation arise. The recommended practices appear in the 1971 SAE Handbook, which may be examined in each of the Regional Offices of the Occupational Safety and Health Administration.

§ 1926.1002 Protective frame (ROPS) test procedures and performance requirements for wheel-type agricultural and industrial tractors used in construction.

(a) *General.* (1) The purpose of this section is to set forth requirements for frames for the protection of operators of wheel type agricultural and industrial tractors to minimize the possibility of operator injury resulting from accidental upsets during normal operation. With respect to agricultural and industrial tractors, the provisions of §§ 1926.1001 and 1926.1003 for rubber-tired dozers and rubber-tired loaders may be utilized in lieu of the requirements of this section.

(2) The protective frame which is the subject of this standard is a structure mounted to the tractor that extends above the operator's seat and conforms generally to Figure W-14.

(3) If an overhead weather shield is attached to the protective frame, it may be in place during tests: *Provided,* That it does not contribute to the strength of the protective frame. If such an overhead weather shield is attached, it must meet the requirements of paragraph (i) of this section.

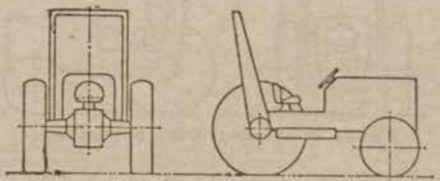


FIGURE W-14—Typical frame configuration.

(4) For overhead protection requirements, see § 1926.1003.

(5) If protective enclosures are used on wheel-type agricultural and industrial tractors, they shall meet the requirements of Society of Automotive Engineers Standard J168 (July 1970), Protective Enclosures, Test Procedures, and Performance Requirements. This standard appears in the 1971 SAE Handbook and may be examined in each Regional Office of the Occupational Safety and Health Administration.

(b) *Applicability.* The requirements of this section apply to wheel-type agricultural tractors used in construction work and to wheel-type industrial tractors used in construction work. See paragraph (j) of this section for definitions of agricultural tractors and industrial tractors.

(c) *Performance requirements.* (1) Either a laboratory test or a field test is required in order to determine the performance requirements set forth in subdivision (i) of this subparagraph.

(2) A laboratory test may be either static or dynamic. The laboratory test must be under conditions of repeatable and controlled loading in order to permit analysis of the protective frame.

(3) A field upset test, if used, shall be conducted under reasonably controlled conditions, both rearward and sideways to verify the effectiveness of the protective frame under actual dynamic conditions.

(d) *Test procedures—general.* (1) The tractor used shall be the tractor with the greatest weight on which the protective frame is to be used.

(2) A new protective frame and mounting connections of the same design shall be used for each test procedure.

(3) Instantaneous and permanent frame deformation shall be measured and recorded for each segment of the test.

(4) Dimensions relative to the seat shall be determined with the seat unloaded and adjusted to its highest and most rearward latched position provided for a seated operator.

(5) If the seat is offset, the frame loading shall be on the side with the least space between the centerline of the seat and the upright.

(6) The low temperature impact strength of the material used in the protective structure shall be verified by suitable material tests or material certifications in accordance with § 1926.1001 (f)(2)(iv).

(e) *Test procedure for vehicle overturn*—(1) *Vehicle weight.* The weight of the tractor, for purposes of this section, includes the protective frame, all fuels, and other components required for normal use of the tractor. Ballast must be added if necessary to achieve a minimum total weight of 130 lb. (59 kg.) per maximum power takeoff horsepower at rated engine speed. The weight of the front end must be at least 33 lb. (15 kg.) per maximum power takeoff horsepower. In case power takeoff horsepower is unavailable, 95 percent of net engine flywheel horsepower shall be used.

(2) Agricultural tractors shall be tested at the weight set forth in subparagraph (1) of this paragraph.

(3) Industrial tractors shall be tested with items of integral or mounted equipment and ballast that are sold as standard equipment or approved by the vehicle manufacturer for use with the vehicle where the protective frame is expected to provide protection for the operator with such equipment installed. The total vehicle weight and front end weight as tested shall not be less than the weights established in subparagraph (1) of this paragraph.

(4) The test shall be conducted on a dry, firm soil bank as illustrated in Figure W-15. The soil in the impact area shall have an average cone index in the 0-6 in. (153 mm.) layer not less than 150 according to American Society of Agricultural Engineers Recom-

mendation ASAE R313, Soil Cone Penetrometer (available in each Regional Office of the Occupational Safety and Health Administration). The path of travel of the vehicle shall be 12°±2° to the top edge of the bank.

(5) The upper edge of the bank shall be equipped with an 18 in. (457 mm.) high ramp as described in Figure W-15 to assist in tipping the vehicle.

(6) The front and rear wheel tread settings, where adjustable, shall be at the position nearest to halfway between the minimum and maximum settings obtainable on the vehicle. Where only two settings are obtainable, the minimum setting shall be used.

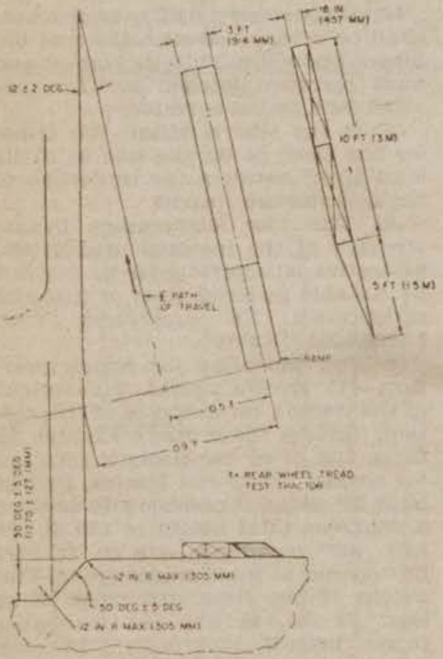


FIGURE W-15.

(7) *Vehicle Overturn Test—Sideways and Rearward.* (i) The tractor shall be driven under its own power along the specified path of travel at a minimum speed of 10 m.p.h. (16 km./hr.) or maximum vehicle speed if under 10 m.p.h. (16 km./hr.) up the ramp as described in subparagraph (5) of this paragraph to induce sideways overturn.

(ii) Rear upset shall be induced by engine power with the tractor operating in gear to obtain 3-5 m.p.h. (4.8-8 km./hr.) at maximum governed engine r.p.m. preferably by driving forward directly up a minimum slope of two vertical to one horizontal. The engine clutch may be used to aid in inducing the upset.

(f) *Other test procedures.* When the field upset test is not used to determine ROPS performance, either the static test or the dynamic test, contained in paragraph (g) or (h) of this section, shall be made.

(g) *Static test*—(1) *Test conditions.* (i) The laboratory mounting base shall include that part of the tractor chassis to which the protective frame is attached including the mounting parts.

(ii) The protective frame shall be instrumented with the necessary equipment to obtain the required load deflection data at the locations and directions specified in Figures W-16, W-17, and W-18.

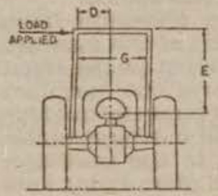


FIGURE W-16—Side load application.

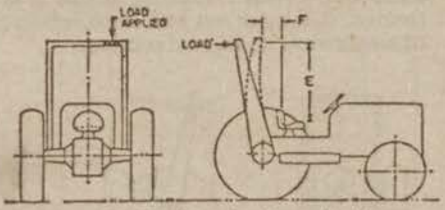


FIGURE W-17—Rear load application.

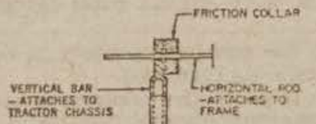

FRICTION COLLAR
VERTICAL BAR —ATTACHES TO TRACTOR CHASSIS
HORIZONTAL ROD —ATTACHES TO FRAME

FIGURE W-18—Method of measuring instantaneous deflection.

(iii) The protective frame and mounting connections shall be instrumented with the necessary recording equipment to obtain the required load-deflection data to be used in calculating FSB (see paragraph (j)(3) of this section). The gauges shall be placed on mounting connections before the installation load is applied.

(2) *Test procedure.* (i) The side load application shall be at the upper extremity of the frame upright at a 90° angle to the centerline of the vehicle. The side load "L" shall be applied according to Figure W-16. "L" and "D" shall be recorded simultaneously. The test shall be stopped when:

(A) The strain energy absorbed by the frame is equal to the required input energy (E_{is}) or

(B) Deflection of the frame exceeds the allowable deflection, or

(C) The frame load limit occurs before the allowable deflection is reached in the side load.

(ii) The L-D diagram, as shown by means of a typical example in Figure W-19, shall be constructed, using the data obtained in accordance with subdivision (i) of this subparagraph.

(iii) The modified L_m-D_m diagram shall be constructed according to subdivision (ii) of this subparagraph and according to Figure W-20. The strain energy absorbed by the frame (E_u) shall then be determined.

(iv) E_{is}, FER, and FSB shall be calculated.

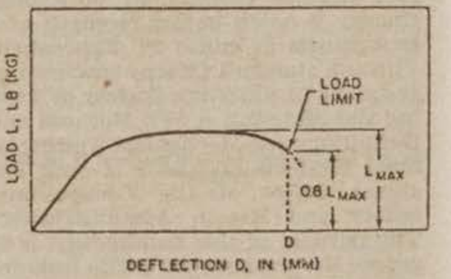


FIGURE W-19—Typical L-D diagram.

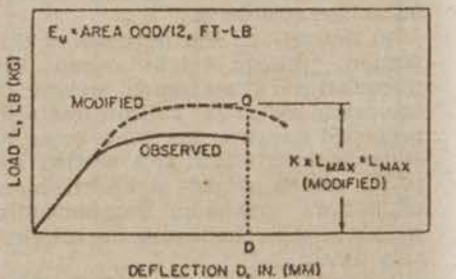


FIGURE W-20—Typical modified L_m-D_m diagram.

(v) The test procedure shall be repeated on the same frame utilizing L (rear input; see FIGURE W-18) and E_{ir}. Rear load application shall be uniformly distributed along a maximum projected dimension of 27 in. (686 mm.) and a maximum area of 160 sq. in. (1,032 sq. cm.) normal to the direction of load application. The load shall be applied to the upper extremity of the frame at the point which is midway between the centerline of the seat and the inside of the frame upright.

(h) *Dynamic test*—(1) *Test conditions.* (i) The protective frame and tractor shall meet the requirements of paragraphs (e)(2) or (3) of this section, as appropriate.

(ii) The dynamic loading shall be produced by use of a 4,410 lb. (2,000 kg.) weight acting as a pendulum. The impact face of the weight shall be 27 plus or minus 1 in. by 27 plus or minus 1 in. (686+ or −25 mm.) and shall be constructed so that its center of gravity is within 1 in. (25.4 mm.) of its geometric center. The weight shall be suspended from a pivot point 18-22 ft. (5.5-6.7 m.) above the point of impact on the frame and shall be conveniently and safely adjustable for height. (See Figure W-21.)

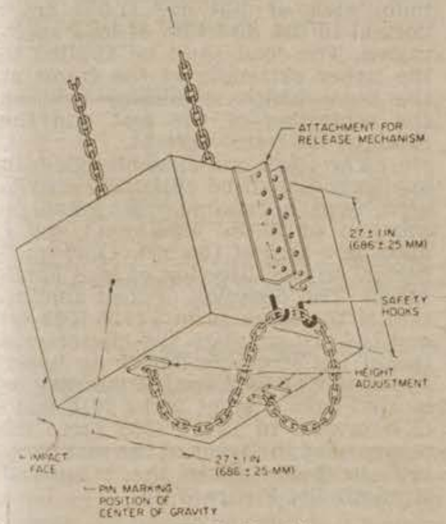


Figure W-21—Pendulum.

(iii) For each phase of testing, the tractor shall be restrained from moving when the dynamic load is applied. The restraining members shall be of 0.5-0.63 in. (12.5-16 mm.) steel cable and points of attaching restraining members shall be located an appropriate distance behind the rear axle and in front of the front axle to provide a 15°-30° angle between a restraining cable and the horizontal. The restraining member shall either be in the plane in which the center gravity of the pendulum will swing or more than one restraining cable shall give a resultant force in this plane. (See Figure W-22.)

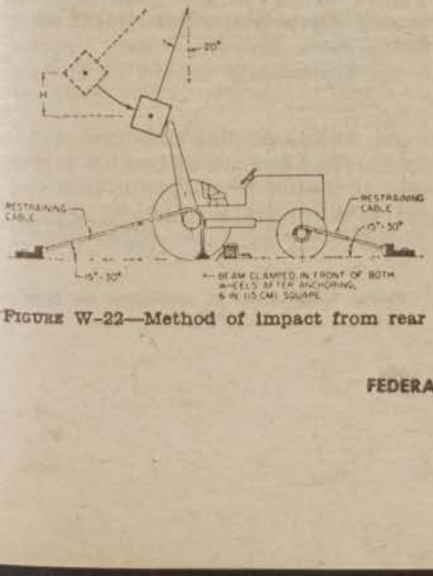

20°
H
RESTRAINING CABLE
RESTRAINING CABLE
15°-30°
15°-30°
BEAM CLAMPED IN FRONT OF BOTH WHEELS AFTER ANCHORING, 6 IN (15 CM) SQUARE

Figure W-22—Method of impact from rear

(iv) The wheel tread setting shall comply with the requirements of paragraph (e)(6) of this section. The tires shall have no liquid ballast and shall be inflated to the maximum operating pressure recommended by the tire manufacturer. With specified tire inflation, the restraining cables shall be tightened to provide tire deflection of 6-8 percent of nominal tire section width. After the vehicle is properly restrained, a wooden beam 6 × 6 in. (15 × 15 cm.) shall be driven tightly against the appropriate wheels and clamped. For the test to the side, an additional wooden beam shall be placed as a prop against the wheel nearest the operator's station and shall be secured to the floor so that it is held tightly against the wheel rim during impact. The length of this beam shall be chosen so that when it is positioned against the wheel rim, it is at an angle of 25°-40° to the horizontal. It shall have a length 20-25 times its depth and a width two to three times its depth. (See Figures W-22 and W-23.)

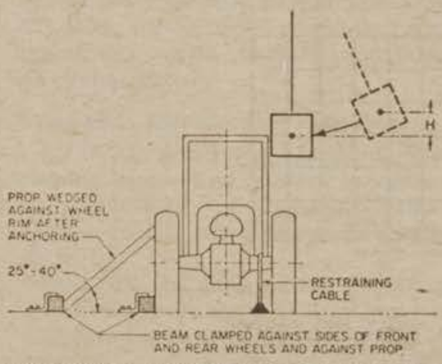

H
PROP WEDGED AGAINST WHEEL RIM AFTER ANCHORING
25°-40°
RESTRAINING CABLE
BEAM CLAMPED AGAINST SIDES OF FRONT AND REAR WHEELS AND AGAINST PROP

Figure W-23—Method of impact from side.

(v) Means shall be provided indicating the maximum instantaneous deflection along the line of impact. A simple friction device is illustrated in Figure W-23.

(vi) No repair or adjustments may be carried out during the test.

(vii) If any cables, props, or blocking shift or break during the test, the test shall be repeated.

(2) *Test procedure*—(i) *General.* The frame shall be evaluated by imposing dynamic loading to rear followed by a load to the side on the same frame. The pendulum dropped from the height (see definition "H" in paragraph (j)(3) of this section) imposes the dynamic load. The position of the pendulum shall be so selected that the initial point of impact on the frame shall be in line with the arc of travel of the center of gravity of the pendulum. A quick release mechanism should be used but, if used, shall not influence the attitude of the block.

(ii) *Impact at rear.* The tractor shall be properly restrained according to subparagraphs (1) (iii) and (iv) of this paragraph. The tractor shall be positioned with respect to the pivot point of the pendulum such that the pendulum is 20° from the vertical prior to impact, as shown in Figure W-22. The impact shall be applied to the upper extremity of the frame at the point which is midway between the centerline of the seat and the inside of the frame upright of a new frame.

(iii) *Impact at side.* The block and restraining shall conform to subparagraphs (1) (iii) and (iv) of this paragraph. The point of impact shall be that structural member of the protective frame likely to hit the ground first in a sideways accidental upset. The side impact shall be applied to the side opposite that used for rear impact.

(i) *Performance requirements*—(1) *General.* (i) The frame, overhead weather shield, fenders, or other parts in the operator area may be deformed but shall not shatter or leave sharp edges exposed to the operator, or violate dimensions as shown in Figures W-16 and W-17 as follows:

D = 2 in. (51 mm.) inside of frame upright to vertical centerline of seat.
E = 30 in. (762 mm.).
F = Not less than 0 in. and not more than 12 in. (305 mm.), measured at centerline front of seat backrest to crossbar along the line of load application as shown in Figure W-17.
G = 24 in. (610 mm.).

(ii) The material and design combination used in the protective structure must be such that the structure can meet all prescribed performance tests at zero degrees Fahrenheit in accordance with § 1926.1001(f)(2)(iv).

(2) *Vehicle overturn performance requirements.* The requirements of this paragraph (i) must be met in both side and rear overturns.

(3) *Static test performance requirements.* Design factors shall be incorporated in each design to withstand an overturn test as prescribed in this paragraph (i). The structural requirements will be generally met if FER is greater than 1 and FSB is greater than K-1 in both side and rear loadings.

(4) *Dynamic test performance requirements.* Design factors shall be incorporated in each design to withstand the overturn test prescribed in this paragraph (i). The structural requirements will be generally met if the dimensions in this paragraph (i) are adhered to in both side and rear loads.

(j) *Definitions applicable to this section.* (1) SAE J333a, Operator Protection for Wheel-Type Agricultural and Industrial Tractors (July 1970) defines "agricultural tractor" as a "wheel-type vehicle of more than 20 engine horsepower designed to furnish the power to pull, carry, propel, or drive implements that are designed for agricultural usage." Since this Part 1926 applies only to construction work, the following definition of "agricultural tractor" is adopted for purposes of this subpart: "Agricultural tractor" means a wheel-type vehicle of more than 20 engine horsepower, used in construction work, which is designed to furnish the power to pull, propel, or drive implements.

(2) "Industrial tractor" means that class of wheeled type tractor of more than 20 engine horsepower (other than rubber-tired loaders and dozers described in § 1926.1001), used in operations such as landscaping, construction services, loading, digging, grounds keeping, and highway maintenance.

(3) The following symbols, terms, and explanations apply to this section:

E_{is}=Energy imput to be absorbed during side loading. $E_{is}=723+0.4$ W ft.-lb. ($E'_{is}=100+0.12W'$, m.-kg.).

E_{ir}=Energy input to be absorbed during rear loading. $E_{ir}=0.47$ W ft.-lb. ($E'_{ir}=0.14$ W', m.-kg.).

W=Tractor weight as prescribed in § 1926.1002 (e)(1) and (e)(3), in lb. (W', kg.).

L=Static load, lb. (kg.).

D=Deflection under L, in. (mm.).

L-D=Static load-deflection diagram.

L_m-D_m=Modified static load-deflection diagram (Figure W-20). To account for increase in strength due to increase in strain rate, raise L in plastic range to L×K.

K=Increase in yield strength induced by higher rate of loading (1.3 for hot rolled low carbon steel 1010-1030). Low carbon is preferable; however, if higher carbon or other material is used, K must be determined in the laboratory. Refer to Charles H. Norris, et al., Structural Design for Dynamic Loads (1959), p.3.

L_{max}=Maximum observed static load.

Load Limit=Point on L-D curve where observed static load is 0.8 L_{max} (refer to Figure W-19).

E_u=Strain energy absorbed by the frame, ft.-lb. (m.-kg.) area under L_m-D_m curve.

FER=Factor of energy ratio, FER=E_u/E_{is}; also =E_u/E_{ir}.

P_b=Maximum observed force in mounting connection under static load, L, lb. (kg.).

FSB=Design margin for mounting connection FSB=$(P_u/P_b)-1$.

H=Vertical height of lift of 4,410 lb. (2,000 kg.) weight, in. (H', mm.). The weight shall be pulled back so that the height of its center of gravity above the point of impact is defined as follows: H=4.92+0.00190 W or (H'=125+0.107 W') (Figure W-24).

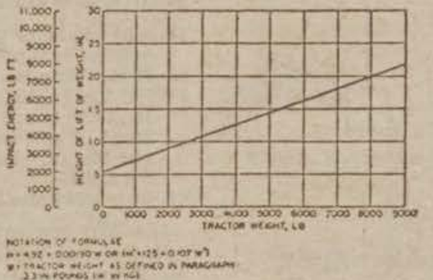


Figure W-24—Impact energy and corresponding lift height of 4,410 lb. (2,000 kg.) weight.

(k) *Source of standard.* The standard in this section is derived from, and restates, Society of Automotive Engineers Standard J334a (July 1970), Protective Frame Test Procedures and Performance Requirements. This standard shall be resorted to in the event that questions of interpretation arise. The standard appears in the 1971 SAE Handbook, which may be examined in each of the Regional Offices of the Occupational Safety and Health Administration.

§ 1926.1003 Overhead protection for operators of agricultural and industrial tractors.

(a) *General*—(1) *Purpose.* When overhead protection is provided on wheel-type agricultural and industrial tractors, the overhead protection shall be designed and installed according to the requirements contained in this section. The provisions of § 1926.1001 for rubber-tired dozers and rubber-tired loaders may be used in lieu of the standards contained in this section. The purpose of the standard is to minimize the possibility of operator injury resulting from overhead hazards such as flying and falling objects, and at the same time to minimize the possibility of operator injury from the cover itself in the event of accidental upset.

(2) *Applicability.* This standard applies to wheel-type agricultural tractors used in construction work and to wheel-type industrial tractors used in construction work. See § 1926.1002 (b) and (j). In the case of machines to which § 1926.604 (relating to site clearing) also applies, the overhead protection may be either the type of protection provided in § 1926.604 or the type of protection provided by this section.

(b) *Overhead protection.* When overhead protection is installed on wheel-type agricultural or industrial tractors used in construction work, it shall meet the requirements of this paragraph. The overhead protection may be constructed of a solid material. If grid or mesh is used, the largest permissible opening shall be such that the maximum circle which can be inscribed between the elements of the grid or mesh is 1.5 in. (38 mm.) in diameter. The overhead protection shall not be installed in such a way as to become a hazard in the case of upset.

(c) *Test procedures—general.* (1) The requirements of § 1926.1002 (d), (e), and (f) shall be met.

(2) Static and dynamic rear load application shall be uniformly distributed along a maximum projected dimension of 27 in. (686 mm.) and a maximum area of 160 in.^{2} (1,032 cm.^{2}) normal to the direction of load application. The load shall be applied to the upper extremity of the frame at the point which is midway between the centerline of the seat and the inside of the frame upright.

(3) The static and dynamic side load application shall be uniformly distributed along a maximum projected dimension of 27 in. (686 mm.) and a maximum area of 160 in.^{2} (1,032 cm.^{2}) normal to the direction of load application. The direction of load application is the same as in § 1926.1002 (g) and (h). To simulate the characteristics of the structure during an upset, the center of load application may be located from a point 24 in. (610 mm.) (K) forward to 12 in. (305 mm.) (L) rearward of the front of the seat backrest to best utilize the structural strength. See Figure W-25.

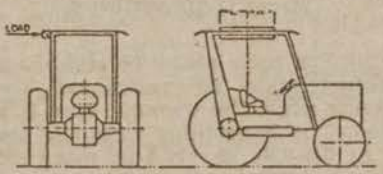


Figure W-25—Location for side load.

(d) *Drop test procedures.* (1) The same frame shall be subjected to the drop test following either the static or dynamic test.

(2) A solid steel sphere or material of equivalent spherical dimension weighing 100 lb. (45.4 kg.) shall be dropped once from a height 10 ft. (3,048 mm.) above the overhead cover.

(3) The point of impact shall be on the overhead cover at a point within the zone of protection as shown in Figure W-26, which is furthest removed from major structural members.

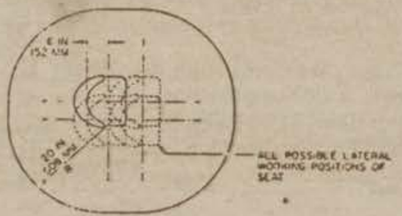


Figure W-26—Zone of protection for drop test.

(e) *Crush test procedure.* (1) The same frame shall be subjected to the crush test following the drop test and static or dynamic test.

(2) The test load shall be applied as shown in Figure W-27 with the seat positioned as specified in § 1926.1002(d)(4). Loading cylinders shall be pivotally mounted at both ends. Loads applied by each cylinder shall be equal within 2 percent, and the sum of the loads of the two cylinders shall be two times the tractor weight as set forth in § 1926.1002(e)(1). The maximum width of the beam illustrated in Figure W-27 shall be 6 in. (152 mm.).

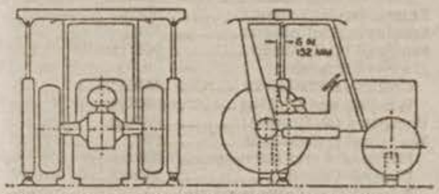


FIGURE W-27—Method of load application for crush test.

(f) *Performance requirements*—(1) *General.* The performance requirements set forth in § 1926.1002(i) (2), (3), and (4) shall be met.

(2) *Drop test performance requirements.* (i) Instantaneous deformation due to impact of the sphere shall not enter the protected zone as illustrated in Figures W-25, W-26, and W-28.

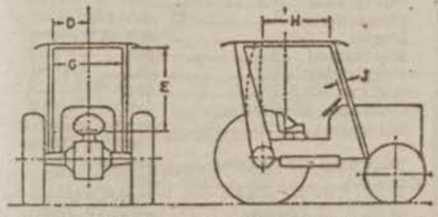


FIGURE W-28—Protected zone during crush and drop tests.

(ii) In addition to the dimensions set forth in § 1926.1002(i)(1)(i), the following dimensions apply to Figure W-28:

H=17.5 in. (444 mm.)
J=2 in. (50.8 mm.) measured from the outer periphery of the steering wheel.

(3) *Crush test performance requirements.* The protected zone as described in Figure W-28 must not be violated.

(g) *Source of standard.* This standard is derived from, and restates, the portions of Society of Automotive Engineers Standard J167 which pertain to overhead protection requirements. The full title of the SAE standard is: Protective Frame with Overhead Protection—Test Procedures and Performance Requirements. The SAE standard shall be resorted to in the event that questions of interpretation arise. The SAE standard appears in the 1971 SAE Handbook, which may be examined in each of the Regional Offices of the Occupational Safety and Health Administration.

Subpart X—Effective Dates

Sec.
1926.1050 Effective dates (general).
1926.1051 Effective dates (specific).

Subpart X—Effective Dates

§ 1926.1050 Effective dates (general).

Except where different effective dates are specifically provided in § 1926.1051, the safety and health standards published in Subparts C through U of this part shall become effective on April 24, 1971, for all Federal and federally assisted advertised contracts subject thereto which are advertised after that date and on April 27, 1971, for all such negotiated contracts for which negotiations begin after that date.

§ 1926.1051 Effective dates (specific).

(a) With respect to standards concerning brakes and fenders prescribed in § 1926.602, the rules contained therein specify the applicable effective dates.

(b)(1) To the extent that the standards in this part apply to light residential construction, their application is delayed until September 27, 1971, whereupon the standards shall apply to contracts subject to the Contract Work Hours and Safety Standards Act which are advertised on or after that date and to such contracts which may be negotiated when the negotiations commence on or after that date.

(2) For the purpose of this paragraph, the term "light residential construction" is limited to the construction of homes and apartments which do not exceed three stories in height, and which do not have an elevator.

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The following requirements from Subpart T of 29 CFR 1910 (General Industry Standards) have been identified as applicable to construction (29 CFR Part 1926).

PART 1910—OCCUPATIONAL SAFETY AND HEALTH STANDARDS

Subpart T—Commercial Diving Operations

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Appendix A—Examples of Conditions Which May Restrict or Limit Exposure to Hyperbaric Conditions.

Subpart T—Commercial Diving Operations

GENERAL

§ 1910.401 Scope and application.

(a) *Scope.* (1) This subpart (standard) applies to every place of employment within the waters of the United States, or within any State, the District of Columbia, the Commonwealth of Puerto Rico, the Virgin Islands, American Samoa, Guam, the Trust Territory of the Pacific Islands, Wake Island, Johnston Island, the Canal Zone, or within the Outer Continental Shelf lands as defined in the Outer Continental Shelf Lands Act (67 Stat. 462, 43 U.S.C. 1331), where diving and related support operations are performed.

(2) This standard applies to diving and related support operations conducted in connection with all types of work and employments, including general industry, construction, ship repairing, shipbuilding, shipbreaking and longshoring. However, this standard does not apply to any diving operation:

(i) Performed solely for instructional purposes, using open-circuit, compressed-air SCUBA and conducted within the no-decompression limits;

(ii) Performed solely for search, rescue, or related public safety purposes by or under the control of a governmental agency; or

(iii) Governed by 45 CFR Part 46 (Protection of Human Subjects, U.S. Department of Health, Education, and Welfare) or equivalent rules or regulations established by another federal agency, which regulate research, development, or related purposes involving human subjects.

(b) *Application in emergencies.* An employer may deviate from the requirements of this standard to the extent necessary to prevent or minimize a situation which is likely to cause death, serious physical harm, or major environmental damage, provided that the employer:

(1) Notifies the Area Director, Occupational Safety and Health Administration within 48 hours of the onset of the emergency situation indicating the nature of the emergency and extent of the deviation from the prescribed regulations; and

(2) Upon request from the Area Director, submits such information in writing.

(c) *Employer obligation.* The employer shall be responsible for compliance with:

(1) All provisions of this standard of general applicability; and

(2) All requirements pertaining to specific diving modes to the extent diving operations in such modes are conducted.

§ 1910.402 Definitions.

As used in this standard, the listed terms are defined as follows:

"Acfm": Actual cubic feet per minute.

"ASME Code or equivalent": ASME (American Society of Mechanical Engineers) Boiler and Pressure Vessel Code, Section VIII, or an equivalent code which the employer can demonstrate to be equally effective.

"ATA": Atmosphere absolute.

"Bell": An enclosed compartment, pressurized (closed bell) or unpressurized (open bell), which allows the diver to be transported to and from the underwater work area and which may be used as a temporary refuge during diving operations.

"Bottom time": The total elapsed time measured in minutes from the time when the diver leaves the surface in descent to the time that the diver begins ascent.

"Bursting pressure": The pressure at which a pressure containment device would fail structurally.

"Cylinder": A pressure vessel for the storage of gases.

"Decompression chamber": A pressure vessel for human occupancy such as a surface decompression chamber, closed bell, or deep diving system used to decompress divers and to treat decompression sickness.

"Decompression sickness": A condition with a variety of symptoms which may result from gas or bubbles in the tissues of divers after pressure reduction.

"Decompression table": A profile or set of profiles of depth-time relationships for ascent rates and breathing mixtures to be followed after a specific depth-time exposure or exposures.

"Dive location": A surface or vessel from which a diving operation is conducted.

"Dive-location reserve breathing gas": A supply system of air or mixed-gas (as appropriate) at the dive location which is independent of the primary supply system and sufficient to support divers during the planned decompression.

"Dive team": Divers and support employees involved in a diving operation, including the designated person-in-charge.

"Diver": An employee working in water using underwater apparatus which supplies compressed breathing gas at the ambient pressure.

"Diver-carried reserve breathing gas": A diver-carried supply of air or mixed gas (as appropriate) sufficient under standard operating conditions to allow the diver to reach the surface, or another source of breathing gas, or to be reached by a standby diver.

"Diving mode": A type of diving requiring specific equipment, procedures and techniques (SCUBA, surface-supplied air, or mixed gas).

"Fsw": Feet of seawater (or equivalent static pressure head).

"Heavy gear": Diver-worn deep-sea dress including helmet, breastplate, dry suit, and weighted shoes.

"Hyperbaric conditions": Pressure conditions in excess of surface pressure.

"Inwater stage": A suspended underwater platform which supports a diver in the water.

"Liveboating": The practice of supporting a surfaced-supplied air or mixed gas diver from a vessel which is underway.

"Mixed-gas diving": A diving mode in which the diver is supplied in the water with a breathing gas other than air.

"No-decompression limits": The depth-time limits of the "no-decompression limits and repetitive dive group designation table for no-decompression air dives", U.S. Navy Diving Manual or equivalent limits which the employer can demonstrate to be equally effective.

"Psi(g)": Pounds per square inch (gauge).

"SCUBA diving": A diving mode independent of surface supply in which the diver uses open circuit self-contained underwater breathing apparatus.

"Standby diver": A diver at the dive location available to assist a diver in the water.

"Surface-supplied air diving": A diving mode in which the diver in the water is supplied from the dive location with compressed air for breathing.

"Treatment table": A depth-time and breathing gas profile designed to treat decompression sickness.

"Umbilical": The composite hose bundle between a dive location and a diver or bell, or between a diver and a bell, which supplies the diver or bell with breathing gas, communications, power, or heat as appropriate to the diving mode or conditions, and includes a safety line between the diver and the dive location.

"Volume tank": A pressure vessel connected to the outlet of a compressor and used as an air reservoir.

"Working pressure": The maximum pressure to which a pressure containment device may be exposed under standard operating conditions.

PERSONNEL REQUIREMENTS

§ 1910.410 Qualifications of dive team.

(a) *General.* (1) Each dive team member shall have the experience or training necessary to perform assigned tasks in a safe and healthful manner.

(2) Each dive team member shall have experience or training in the following:

(i) The use of tools, equipment and systems relevant to assigned tasks;

(ii) Techniques of the assigned diving mode; and

(iii) Diving operations and emergency procedures.

(3) All dive team members shall be trained in cardiopulmonary resuscitation and first aid (American Red Cross standard course or equivalent).

(4) Dive team members who are exposed to or control the exposure of others to hyperbaric conditions shall be trained in diving-related physics and physiology.

(b) *Assignments.* (1) Each dive team member shall be assigned tasks in accordance with the employee's experience or training, except that limited additional tasks may be assigned to an employee undergoing training provided that these tasks are performed under the direct supervision of an experienced dive team member.

(2) The employer shall not require a dive team member to be exposed to hyperbaric conditions against the employee's will, except when necessary to complete decompression or treatment procedures.

(3) The employer shall not permit a dive team member to dive or be otherwise exposed to hyperbaric conditions for the duration of any temporary physical impairment or condition which is known to the employer and is likely to affect adversely the safety or health of a dive team member.

(c) *Designated person-in-charge.* (1) The employer or an employee designated by the employer shall be at the dive location in charge of all aspects of the diving operation affecting the safety and health of dive team members.

(2) The designated person-in-charge shall have experience and training in the conduct of the assigned diving operation.

§ 1910.411 Medical requirements.

(a) *General.* (1) The employer shall determine that dive team members who are, or are likely to be, exposed to hyperbaric conditions are medically fit to perform assigned tasks in a safe and healthful manner.

(2) The employer shall provide each dive team member who is, or is likely to be, exposed to hyperbaric conditions with all medical examinations required by this standard.

(3) All medical examinations required by this standard shall be performed by, or under the direction of, a physician at no cost to the employee.

(b) *Frequency of medical examinations.* Medical examinations shall be provided:

(1) Prior to initial hyperbaric exposure with the employer, unless an equivalent medical examination has been given within the preceding 12 months and the employer has obtained the results of the examination and an opinion from the examining physician of the employee's medical fitness to dive or to be otherwise exposed to hyperbaric conditions;

(2) At one-year intervals from the date of initial examination or last equivalent examination; and

(3) After an injury or illness requiring hospitalization of more than twenty-four (24) hours.

(c) *Information provided to examining physician.* The employer shall provide the following information to the examining physician:

(1) A copy of the medical requirements of this standard; and

(2) A summary of the nature and extent of hyperbaric conditions to which the dive team member will be exposed, including diving modes and types of work to be assigned.

(d) *Content of medical examinations.* (1) Medical examinations conducted initially and annually shall consist of the following:

(i) Medical history;

(ii) Diving-related work history;

(iii) Basic physical examination;

(iv) The tests required by Table I; and

(v) Any additional tests the physician considers necessary.

(2) Medical examinations conducted after an injury or illness requiring hospitalization of more than 24 hours shall be appropriate to the nature and extent of the injury or illness as determined by the examining physician.

TABLE I.—*Tests for diving medical examination*

Test	Initial examination	Annual reexamination
Chest X-ray	X	
Visual acuity	X	X
Color blindness	X	
EKG: Standard 12L [1].		
Hearing test	X	X
Hematocrit or hemoglobin	X	X
Sickle cell index	X	
White blood count	X	X
Urinalysis	X	X

[1] To be given to the employee once, at age 35 or over.

(e) *Physician's written report.* (1) After any medical examination required by this standard, the employer shall obtain a written report prepared by the examining physician containing:

(i) The results of the medical examination; and

(ii) The examining physician's opinion of the employee's fitness to be exposed to hyperbaric conditions, including any recommended restrictions or limitations to such exposure (see Appendix B).

(2) The employer shall provide the employee with a copy of the physician's written report.

(f) *Determination of employee fitness.* (1) The employer shall determine the extent and nature of the dive team member's fitness to engage in diving or be otherwise exposed to hyperbaric conditions consistent with the recommendations in the examining physician's report.

(2) If the examining physician has recommended a restriction or limitation on the dive team member's exposure to hyperbaric conditions, and the affected employee does not concur, a second physician selected by the employee shall render a medical opinion on the nature and extent of the restriction or limitation, if any.

(3) If the recommendation of the second opinion differs from that of the examining (first) physician, and if the employer and employee are unable to agree on the nature and extent of the restriction or limitation, an opinion from a third physician selected by the first two physicians shall be obtained. The employer's determination of the dive team member's fitness shall be consistent with the medical opinion of the third physician, unless the employer and employee reach an agreement which is otherwise consistent with the recommendation or opinion of at least two of the physicians involved.

(4) Nothing in this procedure shall be construed to prohibit either a dive team member from accepting, or an employer from offering, an assignment which is otherwise consistent with at least one medical opinion while a final determination on the employee's fitness is pending.

GENERAL OPERATIONS PROCEDURES

§ 1910.420 Safe practices manual.

(a) *General.* The employer shall develop and maintain a safe practices manual which shall be made available at the dive location to each dive team member.

(b) *Contents.* (1) The safe practices manual shall contain a copy of this standard and the employer's policies for implementing the requirements of this standard.

(2) For each diving mode engaged in, the safe practices manual shall include:

(i) Safety procedures and checklists for diving operations;

(ii) Assignments and responsibilities of the dive team members;

(iii) Equipment procedures and checklists; and

(iv) Emergency procedures for fire, equipment failure, adverse environmental conditions, and medical illness and injury.

§ 1910.421 Pre-dive procedures.

(a) *General.* The employer shall comply with the following requirements prior to each diving operation, unless otherwise specified.

(b) *Emergency aid.* A list shall be kept at the dive location of the telephone or call numbers of the following:

(1) An operational decompression chamber (if not at the dive location);

(2) Accessible hospitals;

(3) Available physicians;

(4) Available means of transportation; and

(5) The nearest U.S. Coast Guard Rescue Coordination Center.

(c) *First aid supplies.* (1) A first aid kit appropriate for the diving operation and approved by a physician shall be available at the dive location.

(2) When used in a decompression chamber or bell, the first aid kit shall be suitable for use under hyperbaric conditions.

(3) In addition to any other first aid supplies, an American Red Cross standard first aid handbook or equivalent, and a bag-type manual resuscitator with transparent mask and tubing shall be available at the dive location.

(d) *Planning and assessment.* Planning of a diving operation shall include an assessment of the safety and health aspects of the following:

(1) Diving mode;

(2) Surface and underwater conditions and hazards;

(3) Breathing gas supply (including reserves);

(4) Thermal protection;

(5) Diving equipment and systems;

(6) Dive team assignments and physical fitness of dive team members (including any impairment known to the employer);

(7) Repetitive dive designation or residual inert gas status of dive team members;

(8) Decompression and treatment procedures (including altitude corrections); and

(9) Emergency procedures.

(e) *Hazardous activities.* To minimize hazards to the dive team, diving operations shall be coordinated with other activities in the vicinity which are likely to interfere with the diving operation.

(f) *Employee briefing.* (1) Dive team members shall be briefed on:

(i) The tasks to be undertaken;

(ii) Safety procedures for the diving mode;

(iii) Any unusual hazards or environmental conditions likely to affect the safety of the diving operation; and

(iv) Any modifications to operating procedures necessitated by the specific diving operation.

(2) Prior to making individual dive team member assignments, the employer shall inquire into the dive team member's current state of physical fitness, and indicate to the dive team member the procedure for reporting physical problems or adverse physiological effects during and after the dive.

(g) *Equipment inspection.* The breathing gas supply system including reserve breathing gas supplies, masks, helmets, thermal protection, and bell handling mechanism (when appropriate) shall be inspected prior to each dive.

(h) *Warning signal.* When diving from surfaces other than vessels in areas capable of supporting marine traffic, a rigid replica of the international code flag "A" at least one meter in height shall be displayed at the dive location in a manner which allows all-round visibility, and shall be illuminated during night diving operations.

§ 1910.422 Procedures during dive.

(a) *General.* The employer shall comply with the following requirements which are applicable to each diving operation unless otherwise specified.

(b) *Water entry and exit.* (1) A means capable of supporting the diver shall be provided for entering and exiting the water.

(2) The means provided for exiting the water shall extend below the water surface.

(3) A means shall be provided to assist an injured diver from the water or into a bell.

(c) *Communications.* (1) An operational two-way voice communication system shall be used between:

(i) Each surface-supplied air or mixed-gas diver and a dive team member at the dive location or bell (when provided or required); and

(ii) The bell and the dive location.

(2) An operational, two-way communication system shall be available at the dive location to obtain emergency assistance.

(d) *Decompression tables.* Decompression, repetitive, and no-decompression tables (as appropriate) shall be at the dive location.

(e) *Dive profiles.* A depth-time profile, including when appropriate any breathing gas changes, shall be maintained for each diver during the dive including decompression.

(f) *Hand-held power tools and equipment.* (1) Hand-held electrical tools and equipment shall be de-energized before being placed into or retrieved from the water.

(2) Hand-held power tools shall not be supplied with power from the dive location until requested by the diver.

(g) *Welding and burning.* (1) A current supply switch to interrupt the current flow to the welding or burning electrode shall be:

(i) Tended by a dive team member in voice communication with the diver performing the welding or burning; and

(ii) Kept in the open position except when the diver is welding or burning.

(2) The welding machine frame shall be grounded.

(3) Welding and burning cables, electrode holders, and connections shall be capable of carrying the maximum current required by the work, and shall be properly insulated.

(4) Insulated gloves shall be provided to divers performing welding and burning operations.

(5) Prior to welding or burning on closed compartments, structures or pipes, which contain a flammable vapor or in which a flammable vapor may be generated by the work, they shall be vented, flooded, or purged with a mixture of gases which will not support combustion.

(h) *Explosives.* (1) Employers shall transport, store, and use explosives in accordance with this section and the applicable provisions of § 1910.109 and § 1926.912 of Title 29 of the Code of Federal Regulations.

(2) Electrical continuity of explosive circuits shall not be tested until the diver is out of the water.

(3) Explosives shall not be detonated while the diver is in the water.

(i) *Termination of dive.* The working interval of a dive shall be terminated when:

(1) A diver requests termination;

(2) A diver fails to respond correctly to communications or signals from a dive team member;

(3) Communications are lost and can not be quickly re-established between the diver and a dive team member at the dive location, and between the designated person-in-charge and the person controlling the vessel in liveboating operations; or

(4) A diver begins to use diver-carried reserve breathing gas or the dive-location reserve breathing gas.

§ 1910.423 Post-dive procedures.

(a) *General.* The employer shall comply with the following requirements which are applicable after each diving operation, unless otherwise specified.

(b) *Precautions.* (1) After the completion of any dive, the employer shall:

(i) Check the physical condition of the diver;

(ii) Instruct the diver to report any physical problems or adverse physiological effects including symptoms of decompression sickness;

(iii) Advise the diver of the location of a decompression chamber which is ready for use; and

(iv) Alert the diver to the potential hazards of flying after diving.

(2) For any dive outside the no-decompression limits, deeper than 100 fsw or using mixed gas as a breathing mixture, the employer shall instruct the diver to remain awake and in the vicinity of the decompression chamber which is at the dive location for at least one hour after the dive (including decompression or treatment as appropriate).

(c) *Recompression capability.* (1) A decompression chamber capable of recompressing the diver at the surface to a minimum of 165 fsw (6 ATA) shall be available at the dive location for:

(i) Surface-supplied air diving to depths deeper than 100 fsw and shallower than 220 fsw;

(ii) Mixed gas diving shallower than 300 fsw; or

(iii) Diving outside the no-decompression limits shallower than 300 fsw.

(2) A decompression chamber capable of recompressing the diver at the surface to the maximum depth of the dive shall be available at the dive location for dives deeper than 300 fsw.

(3) The decompression chamber shall be:

(i) Dual-lock;

(ii) Multiplace; and

(iii) Located within 5 minutes of the dive location.

(4) The decompression chamber shall be equipped with:

(i) A pressure gauge for each pressurized compartment designed for human occupancy;

(ii) A built-in-breathing-system with a minimum of one mask per occupant;

(iii) A two-way voice communication system between occupants and a dive team member at the dive location;

(iv) A viewport; and

(v) Illumination capability to light the interior.

(4) Treatment tables, treatment gas appropriate to the diving mode, and sufficient gas to conduct treatment shall be available at the dive location.

(5) A dive team member shall be available at the dive location during and for at least one hour after the dive to operate the decompression chamber (when required or provided).

(d) *Record of dive.* (1) The following information shall be recorded and maintained for each diving operation:

(i) Names of dive team members including designated person-in-charge;

(ii) Date, time, and location;

(iii) Diving modes used;

(iv) General nature of work performed;

(v) Approximate underwater and surface conditions (visibility, water temperature and current); and

(vi) Maximum depth and bottom time for each diver.

(2) For each dive outside the no-decompression limits, deeper than 100 fsw or using mixed gas, the following additional information shall be recorded and maintained:

(i) Depth-time and breathing gas profiles;

(ii) Decompression table designation (including modification); and

(iii) Elapsed time since last pressure exposure if less than 24 hours or repetitive dive designation for each diver.

(3) For each dive in which decompression sickness is suspected or symptoms are evident, the following additional information shall be recorded and maintained:

(i) Description of decompression sickness symptoms (including depth and time of onset); and

(ii) Description and results of treatment.

(e) *Decompression procedure assessment.* The employer shall:

(1) Investigate and evaluate each incident of decompression sickness based on the recorded information, consideration of the past performance of decompression table used, and individual susceptibility;

(2) Take appropriate corrective action to reduce the probability of recurrence of decompression sickness; and

(3) Prepare a written evaluation of the decompression procedure assessment, including any corrective action taken, within 45 days of the incident of decompression sickness.

SPECIFIC OPERATIONS PROCEDURES

§ 1910.424 SCUBA diving.

(a) *General.* Employers engaged in SCUBA diving shall comply with the following requirements, unless otherwise specified.

(b) *Limits.* SCUBA diving shall not be conducted:

(1) At depths deeper than 130 fsw;

(2) At depths deeper than 100 fsw or outside the no-decompression limits unless a decompression chamber is ready for use;

(3) Against currents exceeding one (1) knot unless line-tended; or

(4) In enclosed or physically confining spaces unless line-tended.

(c) *Procedures.*

(1) A standby diver shall be available while a diver is in the water.

(2) A diver shall be line-tended from the surface, or accompanied by another diver in the water in continuous visual contact during the diving operations.

(3) A diver shall be stationed at the underwater point of entry when diving

is conducted in enclosed or physically confining spaces.

(4) A diver-carried reserve breathing gas supply shall be provided for each diver consisting of:

(i) A manual reserve (J valve); or

(ii) An independent reserve cylinder with a separate regulator or connected to the underwater breathing apparatus.

(5) The valve of the reserve breathing gas supply shall be in the closed position prior to the dive.

§ 1910.425 Surface-supplied air diving.

(a) *General.* Employers engaged in surface-supplied air diving shall comply with the following requirements, unless otherwise specified.

(b) *Limits.* (1) Surface-supplied air diving shall not be conducted at depths deeper than 190 fsw, except that dives with bottom times of 30 minutes or less may be conducted to depths of 220 fsw.

(2) A decompression chamber shall be ready for use at the dive location for any dive outside the no-decompression limits or deeper than 100 fsw.

(3) A bell shall be used for dives with an inwater decompression time greater than 120 minutes, except when heavy gear is worn or diving is conducted in physically confining spaces.

(c) *Procedures.* (1) Each diver shall be continuously tended while in the water.

(2) A diver shall be stationed at the underwater point of entry when diving is conducted in enclosed or physically confining spaces.

(3) Each diving operation shall have a primary breathing gas supply sufficient to support divers for the duration of the planned dive including decompression.

(4) For dives deeper than 100 fsw or outside the no-decompression limits:

(i) A separate dive team member shall tend each diver in the water;

(ii) A standby diver shall be available while a diver is in the water;

(iii) A diver-carried reserve breathing gas supply shall be provided for each diver except when heavy gear is worn; and

(iv) A dive-location reserve breathing gas supply shall be provided.

(5) For heavy-gear diving deeper than 100 fsw or outside the no-decompression limits:

(i) An extra breathing gas hose capable of supplying breathing gas to the diver in the water shall be available to the standby diver.

(ii) An inwater stage shall be provided to divers in the water.

(6) Except when heavy gear is worn or where physical space does not permit, a diver-carried reserve breathing gas supply shall be provided whenever the diver is prevented by the configuration of the dive area from ascending directly to the surface.

§ 1910.426 Mixed-gas diving.

(a) *General.* Employers engaged in mixed-gas diving shall comply with the following requirements, unless otherwise specified.

(b) *Limits.* Mixed-gas diving shall be conducted only when:

(1) A decompression chamber is ready for use at the dive location; and

(i) A bell is used at depths greater than 220 fsw or when the dive involves inwater decompression time of greater than 120 minutes, except when heavy gear is worn or when diving in physically confining spaces; or

(ii) A closed bell is used at depths greater than 300 fsw, except when diving is conducted in physically confining spaces.

(c) *Procedures.* (1) A separate dive team member shall tend each diver in the water.

(2) A standby diver shall be available while a diver is in the water.

(3) A diver shall be stationed at the underwater point of entry when diving is conducted in enclosed or physically confining spaces.

(4) Each diving operation shall have a primary breathing gas supply sufficient to support divers for the duration of the planned dive including decompression.

(5) Each diving operation shall have a dive-location reserve breathing gas supply.

(6) When heavy gear is worn:

(i) An extra breathing gas hose capable of supplying breathing gas to the diver in the water shall be available to the standby diver; and

(ii) An inwater stage shall be provided to divers in the water.

(7) An inwater stage shall be provided for divers without access to a bell for dives deeper than 100 fsw or outside the no-decompression limits.

(8) When a closed bell is used, one dive team member in the bell shall be available and tend the diver in the water.

(9) Except when heavy gear is worn or where physical space does not permit, a diver-carried reserve breathing gas supply shall be provided for each diver:

(i) Diving deeper than 100 fsw or outside the no-decompression limits; or

(ii) Prevented by the configuration of the dive area from directly ascending to the surface.

§ 1910.427 Liveboating.

(a) *General.* Employers engaged in diving operations involving liveboating shall comply with the following requirements.

(b) *Limits.* Diving operations involving liveboating shall not be conducted:

(1) With an inwater decompression time of greater than 120 minutes;

(2) Using surface-supplied air at depths deeper than 190 fsw, except that dives with bottom times of 30 minutes or less may be conducted to depths of 220 fsw;

(3) Using mixed gas at depths greater than 220 fsw;

(4) In rough seas which significantly inpede diver mobility or work function; or

(5) In other than daylight hours.

(d) *Procedures.* (1) The propeller of the vessel shall be stopped before the diver enters or exits the water.

(2) A device shall be used which minimizes the possibility of entanglement of the diver's hose in the propeller of the vessel.

(3) Two-way voice communication between the designated person-in-charge and the person controlling the vessel shall be available while the diver is in the water.

(4) A standby diver shall be available while a diver is in the water.

(5) A diver-carried reserve breathing gas supply shall be carried by each diver engaged in liveboating operations.

EQUIPMENT PROCEDURES AND REQUIREMENTS

§ 1910.430 Equipment.

(a) *General.* (1) All employers shall comply with the following requirements, unless otherwise specified.

(2) Each equipment modification, repair, test, calibration or maintenance service shall be recorded by means of a tagging or logging system, and include the date and nature of work performed, and the name or initials of the person performing the work.

(b) *Air compressor systems.* (1) Compressors used to supply air to the diver shall be equipped with a volume tank with a check valve on the inlet side, a pressure gauge, a relief valve, and a drain valve.

(2) Air compressor intakes shall be located away from areas containing exhaust or other contaminants.

(3) Respirable air supplied to a diver shall not contain:

(i) A level of carbon monoxide (CO) greater than 20 ppm;

(ii) A level of carbon dioxide (CO_2) greater than 1,000 ppm;

(iii) A level of oil mist greater than 5 milligrams per cubic meter; or

(iv) A noxious or pronounced odor.

(4) The output of air compressor systems shall be tested for air purity every 6 months by means of samples taken at the connection to the distribution system, except that non-oil lubricated compressors need not be tested for oil mist.

(c) *Breathing gas supply hoses.* (1) Breathing gas supply hoses shall:

(i) Have a working pressure at least equal to the working pressure of the total breathing gas system;

(ii) Have a rated bursting pressure at least equal to 4 times the working pressure;

(iii) Be tested at least annually to 1.5 times their working pressure; and

(iv) Have their open ends taped, capped or plugged when not in use.

(2) Breathing gas supply hose connectors shall:

(i) Be made of corrosion-resistant materials;

(ii) Have a working pressure at least equal to the working pressure of the hose to which they are attached; and

(iii) Be resistant to accidental disengagement.

(3) Umbilicals shall:

(i) Be marked in 10-ft. increments to 100 feet beginning at the diver's end, and in 50 ft. increments thereafter;

(ii) Be made of kink-resistant materials; and

(iii) Have a working pressure greater than the pressure equivalent to the maximum depth of the dive (relative to the supply source) plus 100 psi.

(d) *Buoyancy control.* (1) Helmets or masks connected directly to the dry suit or other buoyancy-changing equipment shall be equipped with an exhaust valve.

(2) A dry suit or other buoyancy-changing equipment not directly connected to the helmet or mask shall be equipped with an exhaust valve.

(3) When used for SCUBA diving, a buoyancy compensator shall have an inflation source separate from the breathing gas supply.

(4) An inflatable flotation device capable of maintaining the diver at the surface in a face-up position, having a manually activated inflation source independent of the breathing supply, an oral inflation device, and an exhaust valve shall be used for SCUBA diving.

(e) *Compressed gas cylinders.* Compressed gas cylinders shall:

(1) Be designed, constructed and maintained in accordance with the applicable provisions of 29 CFR 1910.166–171;

(2) Be stored in a ventilated area and protected from excessive heat;

(3) Be secured from falling; and

(4) Have shut-off valves recessed into the cylinder or protected by a cap, except when in use or manifolded, or when used for SCUBA diving.

(f) *Decompression chambers.* (1) Each decompression chamber manufactured after the effective date of this standard, shall be built and maintained in accordance with the ASME Code or equivalent.

(2) Each decompression chamber manufactured prior to the effective date of this standard shall be maintained in conformity with the code requirements to which it was built, or equivalent.

(3) Each decompression chamber shall be equipped with:

(i) Means to maintain the atmosphere below a level of 25 percent oxygen be volume;

(ii) Mufflers on intake and exhaust lines, which shall be regularly inspected and maintained;

(iii) Suction guards on exhaust line openings; and

(iv) A means for extinguishing fire, and shall be maintained to minimize sources of ignition and combustible material.

(g) *Gauges and timekeeping devices.* (1) Gauges indicating diver depth which can be read at the dive location shall be used for all dives except SCUBA.

(2) Each depth gauge shall be deadweight tested or calibrated against a master reference gauge every 6 months, and when there is a discrepancy greater than two percent (2%) of full scale between any two equivalent gauges.

(3) A cylinder pressure gauge capable of being monitored by the diver during the dive shall be worn by each SCUBA diver.

(4) A timekeeping device shall be available at each dive location.

(h) *Masks and helmets.* (1) Surface-supplied air and mixed-gas masks and helmets shall have:

(i) A non-return valve at the attachment point between helmet or mask and hose which shall close readily and positively; and

(ii) An exhaust valve.

(2) Surface-supplied air masks and helmets shall have a minimum ventilation rate capability of 4.5 acfm at any depth at which they are operated or the capability of maintaining the diver's inspired carbon dioxide partial pressure below 0.02 ATA when the diver is producing carbon dioxide at the rate of 1.6 standard liters per minute.

(i) *Oxygen safety.* (1) Equipment used with oxygen or mixtures containing over forty percent (40%) by volume oxygen shall be designed for oxygen service.

(2) Components (except umbilicals) exposed to oxygen or mixtures containing over forty percent (40%) by volume oxygen shall be cleaned of flammable materials before use.

(3) Oxygen systems over 125 psig and compressed air systems over 500 psig shall have slow-opening shut-off valves.

(j) *Weights and harnesses.* (1) Except when heavy gear is worn, divers shall be equipped with a weight belt or assembly capable of quick release.

(2) Except when heavy gear is worn or in SCUBA diving, each diver shall wear a safety harness with:

(i) A positive buckling device;

(ii) An attachment point for the umbilical to prevent strain on the mask or helmet; and

(iii) A lifting point to distribute the pull force of the line over the diver's body.

RECORDKEEPING

§ 1910.440 Recordkeeping requirements.

(a) *Recording and Reporting.* (1) The employer shall record and report occupational injuries and illnesses in accordance with requirements of 29 CFR Part 1904.

(2) The employer shall record the occurrence of any diving-related injury or illness which requires any dive team member to be hospitalized for 24 hours or more, specifying the circumstances of the incident and the extent of any injuries or illnesses.

(b) *Availability of records.* (1) Upon the request of the Assistant Secretary of Labor for Occupational Safety and Health, or the Director, National Institute for Occupational Safety and Health, Department of Health, Education, and Welfare or their designees, the employer shall make available for inspection and copying any record or document required by this standard.

(2) Upon request of any employee, former employee or authorized representative, the employer shall make available for inspection and copying any record or document required by this standard which pertains to the individual employee or former employee.

(3) Records and documents required by this standard shall be retained by the employer for the following period:

(i) Dive team member medical records (physician's reports) (§ 1910.411)—5 years;

(ii) Safe practices manual (§ 1910.420)—current document only;

(iii) Depth-time profile (§ 1910.422)—until completion of the recording of dive, or until completion of decompression procedure assessment where there has been an incident of decompression sickness;

(iv) Recording of dive (§ 1910.423)—1 year, except 5 years where there has been an incident of decompression sickness;

(v) Decompression procedure assessment evaluations (§ 1910.423)—5 years;

(vi) Equipment inspections and testing records (§ 1910.430)—current entry or tag, or until equipment is withdrawn from service;

(vii) Records of hospitalizations (§ 1910.440)—5 years.

(4) After the expiration of the retention period of any record required to be kept for 5 years, the employer shall forward such records to the National Institute for Occupational Safety and Health, Department of Health, Education, and Welfare.

(5) In the event the employer ceases to do business:

(i) The successor employer shall receive and retain all dive and employee medical records required by this standard; or

(ii) If there is no successor employer, dive and employee medical records shall be forwarded to the National Institute for Occupational Safety and Health, Department of Health, Education, and Welfare.

§ 1910.441 Effective date.

This standard shall be effective on October 20, 1977, except that for provisions where decompression chambers or bells are required and such equipment is not yet available, employers shall comply as soon as possible thereafter but in no case later than 6 months after the effective date of the standard.

APPENDIX A—EXAMPLES OF CONDITIONS WHICH MAY RESTRICT OR LIMIT EXPOSURE TO HYPERBARIC CONDITIONS

The following disorders may restrict or limit occupational exposure to hyperbaric conditions depending on severity, presence of residual effects, response to therapy, number of occurrences, diving mode, or degree and duration of isolation.

History of seizure disorder other than early febrile convulsions.

Malignancies (active) unless treated and without recurrence for 5 yrs.

Chronic inability to equalize sinus and/or middle ear pressure.

Cystic or cavitary disease of the lungs.

Impaired organ function caused by alcohol or drug use.

Conditions requiring continuous medication for control (e.g., antihistamines, steroids, barbiturates, moodaltering drugs, or insulin).

Meniere's disease.

Hemoglobinopathies.

Obstructive or restrictive lung disease.

Vestibular end organ destruction.

Pneumothorax.

Cardiac abnormalities (e.g., pathological heart block, valvular disease, intraventricular conduction defects other than isolated right bundle branch block, angina pectoris, arrhythmia, coronary artery disease).

Juxta-articular osteonecrosis.

> The following requirements from Subpart Z of 29 CFR Part 1910 (General Industry) have been identified as applicable to construction (29 CFR Part 1926).

PART 1910—OCCUPATIONAL SAFETY AND HEALTH STANDARDS

Subpart Z—Toxic and Hazardous Substances

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Sec.
1910.1001 Asbestos.
1910.1002 Coal tar pitch volatiles; interpretation of term.
1910.1003 4-Nitrobiphenyl.
1910.1004 alpha-Naphthylamine.
1910.1005 [Reserved]
1910.1006 Methyl chloromethyl ether.
1910.1007 3,3'-Dichlorobenzidine (and its salts).
1910.1008 bis-Chloromethyl ether.
1910.1009 beta-Naphthylamine.
1910.1010 Benzidine.
1910.1011 4-Aminodiphenyl.
1910.1012 Ethyleneimine.
1910.1013 beta-Propiolactone.
1910.1014 2-Acetylaminofluorene.
1910.1015 4-Dimethylaminoazobenzene.
1910.1016 N-Nitrosodimethylamine.
1910.1017 Vinyl chloride.
1910.1018 Inorganic arsenic.
1910.1028 Benzene.
1910.1029 Coke oven emissions.
1910.1043 Cotton dust.
1910.1044 1,2-dibromo-3-chloropropane.
1910.1045 Acrylonitrile.
1910.1046a Exposure to cotton dust in cotton gins.

§ 1910.1001 Asbestos.

(a) *Definitions.* For the purpose of this section: (1) "Asbestos" includes chrysotile, amosite, crocidolite, tremolite, anthophyllite, and actinolite.

(2) "Asbestos fibers" means asbestos fibers longer than 5 micrometers.

(b) *Permissible exposure to airborne concentrations of asbestos fibers*—(1) *Standard effective July 7, 1972.* The 8-hour time-weighted average airborne concentrations of asbestos fibers to which any employee may be exposed shall not exceed five fibers, longer than 5 micrometers, per cubic centimeter of air, as determined by the method prescribed in paragraph (e) of this section.

(2) *Standard effective July 1, 1976.* The 8-hour time-weighted average airborne concentrations of asbestos fibers to which any employee may be exposed shall not exceed two fibers, longer than 5 micrometers, per cubic centimeter of air, as determined by the method prescribed in paragraph (e) of this section.

(3) *Ceiling concentration.* No employee shall be exposed at any time to airborne concentrations of asbestos fibers in excess of 10 fibers, longer than 5 micrometers, per cubic centimeter of air, as determined by the method prescribed in paragraph (e) of this section.

(c) *Methods of compliance*—(1) *Engineering methods*—(i) *Engineering controls.* Engineering controls, such as, but not limited to, isolation, enclosure, exhaust ventilation, and dust collection, shall be used to meet the exposure limits prescribed in paragraph (b) of this section.

(ii) *Local exhaust ventilation.* (*a*) Local exhaust ventilation and dust collection systems shall be designed, constructed, installed, and maintained in accordance with the American National Standard Fundamentals Governing the Design and Operation of Local Exhaust Systems, ANSI Z9.2-1971, which is incorporated by reference herein.

(*b*) See § 1910.6 concerning the availability of ANSI Z9.2-1971, and the maintenance of a historic file in connection therewith. The address of the American National Standards Institute is given in § 1910.100.

(iii) *Particular tools.* All hand-operated and power-operated tools which may produce or release asbestos fibers in excess of the exposure limits prescribed in paragraph (b) of this section, such as, but not limited to, saws, scorers, abrasive wheels, and drills, shall be provided with local exhaust ventilation systems in accordance with subdivision (ii) of this subparagraph.

(2) *Work practices*—(i) *Wet methods.* Insofar as practicable, asbestos shall be handled, mixed, applied, removed, cut, scored, or otherwise worked in a wet state sufficient to prevent the emission of airborne fibers in excess of the exposure limits prescribed in paragraph (b) of this section, unless the usefulness of the product would be diminished thereby.

(ii) *Particular products and operations.* No asbestos cement, mortar, coating, grout, plaster, or similar material containing asbestos shall be removed from bags, cartons, or other containers in which they are shipped, without being either wetted, or enclosed, or ventilated so as to prevent effectively the release of airborne asbestos fibers in excess of the limits prescribed in paragraph (b) of this section.

(iii) *Spraying, demolition, or removal.* Employees engaged in the spraying of asbestos, the removal, or demolition of pipes, structures, or equipment covered or insulated with asbestos, and in the removal or demolition of asbestos insulation or coverings shall be provided with respiratory equipment in accordance with paragraph (d)(2)(iii) of this section and with special clothing in accordance with paragraph (d)(3) of this section.

(d) *Personal protective equipment*—(1) Compliance with the exposure limits prescribed by paragraph (b) of this section may not be achieved by the use of respirators or shift rotation of employees, except:

(i) During the time period necessary to install the engineering controls and to institute the work practices required by paragraph (c) of this section;

(ii) In work situations in which the methods prescribed in paragraph (c) of this section are either technically not feasible or feasible to an extent insufficient to reduce the airborne concentrations of asbestos fibers below the limits prescribed by paragraph (b) of this section; or

(iii) In emergencies.

(iv) Where both respirators and personnel rotation are allowed by subdivisions (i), (ii), or (iii) of this subparagraph and both are practicable, personnel rotation shall be preferred and used.

(2) Where a respirator is permitted by subparagraph (1) of this paragraph, it shall be selected from among those approved by the Bureau of Mines, Department of the Interior, or the National Institute for Occupational Safety and Health, Department of Health, Education, and Welfare, under the provisions of 30 CFR Part 11 (37 F.R. 6244, Mar. 25, 1972), and shall be used in accordance with subdivisions (i), (ii), (iii), and (iv) of this subparagraph.

(i) *Air purifying respirators.* A reusable or single use air purifying respirator, or a respirator described in subdivision (ii) or (iii) of this subparagraph, shall be used to reduce the concentrations of airborne asbestos fibers in the respirator below the exposure limits prescribed in paragraph (b) of this section, when the ceiling or the 8-hour time-weighted average airborne concentrations of asbestos fibers are reasonably expected to exceed no more than 10 times those limits.

(ii) *Powered air purifying respirators.* A full facepiece powered air purifying respirator, or a powered air purifying respirator, or a respirator described in subdivision (iii) of this subparagraph, shall be used to reduce the concentrations of airborne asbestos fibers in the respirator below the exposure limits prescribed in paragraph (b) of this section, when the ceiling or the 8-hour time-weighted average concentrations of asbestos fibers are reasonably expected to exceed 10 times, but not 100 times, those limits.

(iii) *Type "C" supplied-air respirators, continuous flow or pressure-demand class.* A type "C" continuous flow or pressure-demand, supplied-air respirator shall be used to reduce the concentrations of airborne asbestos fibers in the respirator below the exposure limits prescribed in paragraph (b) of this section, when the ceiling or the 8-hour time-weighted average airborne concentrations of asbestos fibers are reasonably expected to exceed 100 times those limits.

(iv) *Establishment of a respirator program.* (*a*) *The employer shall establish a respirator program in accordance with the requirements of the American National Standards Practices for Respiratory Protection, ANSI Z88.2-1969, which is incorporated by reference herein.*

(*b*) See § 1910.6 concerning the availability of ANSI Z88.2-1969 and the maintenance of a historic file in connection therewith. The address of the American National Standards Institute is given in § 1910.100.

(*c*) No employee shall be assigned to tasks requiring the use of respirators if, based upon his most recent examination, an examining physician determines that the employee will be unable to function normally wearing a respirator, or that the safety or health of the employee or other employees will be impaired by his use of a respirator. Such employee shall be rotated to another job or given the opportunity to transfer to a different position whose duties he is able to perform with the same employer, in the same geographical area and with the same seniority, status, and rate of pay he had just prior to such transfer, if such a different position is available.

(3) *Special clothing.* The employer shall provide, and require the use of, special clothing, such as coveralls or similar whole body clothing, head coverings, gloves, and foot coverings for any employee exposed to airborne concentrations of asbestos fibers, which exceed the ceiling level prescribed in paragraph (b) of this section.

(4) *Change rooms.* (i) At any fixed place of employment exposed to airborne concentrations of asbestos fibers in excess of the exposure limits prescribed in paragraph (b) of this section, the employer shall provide change rooms for employees working regularly at the place.

(ii) *Clothes lockers.* The employer shall provide two separate lockers or containers for each employee, so separated or isolated as to prevent contamination of the employee's street clothes from his work clothes.

(iii) *Laundering.* (*a*) Laundering of asbestos contaminated clothing shall be done so as to prevent the release of air-borne asbestos fibers in excess of the exposure limits prescribed in paragraph (b) of this section.

(*b*) Any employer who gives asbestos-contaminated clothing to another person for laundering shall inform such person of the requirement in (*a*) of this subdivision to effectively prevent the release of airborne asbestos fibers in excess of the exposure limits prescribed in paragraph (b) of this section.

(*c*) Contaminated clothing shall be transported in sealed impermeable bags, or other closed, impermeable containers, and labeled in accordance with paragraph (g) of this section.

(e) *Method of measurement.* All determinations of airborne concentrations of asbestos fibers shall be made by the membrane filter method at 400-450 × (magnification) (4 millimeter objective) with phase contrast illumination.

(f) *Monitoring*—(1) *Initial determinations.* Within 6 months of the publication of this section, every employer shall cause every place of employment where asbestos fibers are released to be monitored in such a way as to determine whether every employee's exposure to asbestos fibers is below the limits prescribed in paragraph (b) of this section. If the limits are exceeded, the employer shall immediately undertake a compliance program in accordance with paragraph (c) of this section.

(2) *Personal monitoring*—(i) Samples shall be collected from within the breathing zone of the employees, on membrane filters of 0.8 micrometer porosity mounted in an open-face filter holder. Samples shall be taken for the determination of the 8-hour time-weighted average airborne concentrations and of the ceiling concentrations of asbestos fibers.

(ii) *Sampling frequency and patterns.* After the initial determinations required by subparagraph (1) of this paragraph, samples shall be of such frequency and pattern as to represent with reasonable accuracy the levels of exposure of employees. In no case shall the sampling be done at intervals greater than 6 months for employees whose exposure to asbestos may reasonably be foreseen to exceed the limits prescribed by paragraph (b) of this section.

(3) *Environmental monitoring*—(i) samples shall be collected from areas of a work environment which are representative of the airborne concentrations of asbestos fibers which may reach the breathing zone of employees. Samples shall be collected on a membrane filter of 0.8 micrometer porosity mounted in an open-face filter holder. Samples shall be taken for the determination of the 8-hour time-weighted average airborne concentrations and of the ceiling concentrations of asbestos fibers.

(ii) *Sampling frequency and patterns.* After the initial determinations required by subparagraph (1) of this paragraph, samples shall be of such frequency and pattern as to represent with reasonable accuracy the levels of exposure of the employees. In no case shall sampling be at intervals greater than 6 months for employees whose exposures to asbestos may reasonably be foreseen to exceed the exposure limits prescribed in paragraph (b) of this section.

(4) *Employee observation of monitoring.* Affected employees, or their representatives, shall be given a reasonable opportunity to observe any monitoring required by this paragraph and shall have access to the records thereof.

(g) *Caution signs and labels*—(1) *Caution signs*—(i) *Posting.* Caution signs shall be provided and displayed at each location where airborne concentrations of asbestos fibers may be in excess of the exposure limits prescribed in paragraph (b) of this section. Signs shall be posted at such a distance from such a location so that an employee may read the signs and take necessary protective steps before entering the area marked by the signs. Signs shall be posted at all approaches to areas containing excessive concentrations of airborne asbestos fibers.

(ii) *Sign specifications.* The warning signs required by subdivision (i) of this subparagraph shall conform to the requirements of 20" × 14" vertical format signs specified in § 1910.145(d)(4), and to this subdivision. The signs shall display the following legend in the lower panel, with letter sizes and styles of a visibility at least equal to that specified in this subdivision.

Legend	*Notation*
Asbestos	1" Sans Serif, Gothic or Block.
Dust Hazard	¾" Sans Serif, Gothic or Block.
Avoid Breathing Dust	¼" Gothic.
Wear Assigned Protective Equipment.	¼" Gothic.
Do Not Remain In Area Unless Your Work Requires It.	⅛" Gothic.
Breathing Asbestos Dust May Be Hazardous To Your Health.	14 point Gothic.

Spacing between lines shall be at least equal to the height of the upper of any two lines.

(2) *Caution labels*—(i) *Labeling.* Caution labels shall be affixed to all raw materials, mixtures, scrap, waste, debris, and other products containing asbestos fibers, or to their containers, except that no label is required where asbestos fibers have been modified by a bonding agent, coating, binder, or other material so that during any reasonably foreseeable use, handling, storage, disposal, processing, or transportation, no airborne concentrations of asbestos fibers in excess of the exposure limits prescribed in paragraph (b) of this section will be released.

(ii) *Label specifications.* The caution labels required by subdivision (i) of this subparagraph shall be printed in letters of sufficient size and contrast as to be readily visible and legible. The label shall state:

CAUTION

Contains Asbestos Fibers

Avoid Creating Dust

Breathing Asbestos Dust May Cause Serious Bodily Harm

(h) *Housekeeping*—(1) *Cleaning.* All external surfaces in any place of employment shall be maintained free of accumulations of asbestos fibers if, with their dispersion, there would be an excessive concentration.

(2) *Waste disposal.* Asbestos waste, scrap, debris, bags, containers, equipment, and asbestos-contaminated clothing, consigned for disposal, which may produce in any reasonably foreseeable use, handling, storage, processing, disposal, or transportation airborne concentrations of asbestos fibers in excess of the exposure limits prescribed in paragraph (b) of this section shall be collected and disposed of in sealed impermeable bags, or other closed, impermeable containers.

(i) *Recordkeeping*—(1) *Exposure records.* Every employer shall maintain records of any personal or environmental monitoring required by this section. Records shall be maintained for a period of at least 20 years and shall be made available upon request to the Assistant Secretary of Labor for Occupational Safety and Health, the Director of the National Institute for Occupational Safety and Health, and to authorized representatives of either.

(2) *Employee access.* Every employee and former employee shall have reasonable access to any record required to be maintained by subparagraph (1) of this paragraph, which indicates the employee's own exposure to asbestos fibers.

(3) *Employee notification.* Any employee found to have been exposed at any time to airborne concentrations of asbestos fibers in excess of the limits prescribed in paragraph (b) of this section shall be notified in writing of the exposure as soon as practicable but not later than 5 days of the finding. The employee shall also be timely notified of the corrective action being taken.

(j) *Medical examinations*—(1) *General.* The employer shall provide or make available at his cost, medical examinations relative to exposure to asbestos required by this paragraph.

(2) *Preplacement.* The employer shall provide or make available to each of his employees, within 30 calendar days following his first employment in an occupation exposed to airborne concentrations of asbestos fibers, a comprehensive medical examination, which shall include, as a minimum, a chest roentgenogram (posterior-anterior 14 × 17 inches), a history to elicit symptomatology of respiratory disease, and pulmonary function tests to include forced vital capacity (FVC) and forced expiratory volume at 1 second (FEV$_{1.0}$).

(3) *Annual examinations.* On or before January 31, 1973, and at least annually thereafter, every employer shall provide, or make available, comprehensive medical examinations to each of his employees engaged in occupations exposed to airborne concentrations of asbestos fibers. Such annual examination shall include, as a minimum, a chest roentgenogram (posterior-anterior 14 × 17 inches), a history to elicit symptomatology of respiratory disease, and pulmonary function tests to include forced vital capacity (FVC) and forced expiratory volume at 1 second (FEV$_{1.0}$).

(4) *Termination of employment.* The employer shall provide, or make available, within 30 calendar days before or after the termination of employment of any employee engaged in an occupation exposed to airborne concentrations of asbestos fibers, a comprehensive medical examination which shall include, as a minimum, a chest roentgenogram (posterior-anterior 14 × 17 inches), a history to elicit symptomatology of respiratory disease, and pulmonary function tests to include forced vital capacity (FVC) and forced expiratory volume at 1 second (FEV$_{1.0}$).

(5) *Recent examinations.* No medical examination is required of any employee, if adequate records show that the employee has been examined in accordance with this paragraph within the past 1-year period.

(6) *Medical records*—(i) *Maintenance.* Employers of employees examined pursuant to this paragraph shall cause to be maintained complete and accurate records of all such medical examinations. Records shall be retained by employers for at least 20 years.

(ii) *Access.* The contents of the records of the medical examinations required by this paragraph shall be made available, for inspection and copying, to the Assistant Secretary of Labor for Occupational Safety and Health, the Director of NIOSH, to authorized physicians and medical consultants of either of them, and, upon the request of an employee or former employee, to his physician. Any physician who conducts a medical examination required by this paragraph shall furnish to the employer of the examined employee all the information specifically required by this paragraph, and any other medical information related to occupational exposure to asbestos fibers.

§ 1910.1002 Coal tar pitch volatiles; interpretation of term.

As used in § 1910.1000 (Table Z-1), coal tar pitch volatiles include the fused polycyclic hydrocarbons which volatilize from the distillation residues of coal, petroleum, wood, and other organic matter.

§ 1910.1003 4-Nitrobiphenyl.

(a) *Scope and application.* (1) This section applies to any area in which 4-Nitrobiphenyl, Chemical Abstracts Service Registry Number 92933 is manufactured, processed, repackaged, released, handled, or stored, but shall not apply to transshipment in sealed containers, except for the labeling requirements under paragraphs (e) (2), (3), and (4) of this section.

(2) This section shall not apply to solid or liquid mixtures containing less than 0.1 percent by weight or volume of 4-Nitrobiphenyl.

(b) *Definitions.* For the purposes of this section:

(1) "Absolute filter aerosol" is one capable of retaining 99.97 percent of a mono disperse aerosol of 0.3 μm particles.

(2) "Authorized employee" means an employee whose duties require him to be in the regulated area and who has been specifically assigned by the employer.

(3) "Clean change room" means a room where employees put on clean clothing and/or protective equipment in an environment free of 4-Nitrobiphenyl. The clean change room shall be contiguous to and have an entry from a shower room, when the shower room facilities are otherwise required in this section.

(4) "Closed system" means an operation involving 4-Nitrobiphenyl where containment prevents the release of 4-Nitrobiphenyl into regulated areas, non-regulated areas, or the external environment.

(5) "Decontamination" means the inactivation of 4-Nitrobiphenyl or its safe disposal.

(6) "Director" means the Director, National Institute for Occupational Safety and Health, or any person directed by him or the Secretary of Health, Education, and Welfare to act for the Director.

(7) "Disposal" means the safe removal of 4-Nitrobiphenyl from the work environment.

(8) "Emergency" means an unforeseen circumstance or set of circumstances resulting in the release of 4-Nitrobiphenyl which may result in exposure to or contact with 4-Nitrobiphenyl.

(9) "External environment" means any environment external to regulated and nonregulated areas.

(10) "Isolated system" means a fully enclosed structure other than the vessel of containment of 4-Nitrobiphenyl, which is impervious to the passage of 4-Nitrobiphenyl, and which would prevent the entry of 4-Nitrobiphenyl into regulated areas, nonregulated areas, or the external environment, should leakage or spillage from the vessel of containment occur.

(11) "Laboratory type hood" is a device enclosed on three sides and the top and bottom, designed and maintained so as to draw air inward at an average linear face velocity of 150 feet per minute with a minimum of 125 feet per minute; designed, constructed, and maintained in such a way that an operation involving 4-Nitrobiphenyl within the hood does not require the insertion of any portion of any employee's body other than his hands and arms.

(12) "Nonregulated area" means any area under the control of the employer where entry and exit is neither restricted nor controlled.

(13) "Open-vessel system" means an operation involving 4-Nitrobiphenyl in an open vessel, which is not in an isolated system, a laboratory type hood, nor in any other system affording equivalent protection against the entry of 4-Nitrobiphenyl into regulated areas, non-regulated areas, or the external environment.

(14) "Protective clothing" means clothing designed to protect an employee against contact with or exposure to 4-Nitrobiphenyl.

(15) "Regulated area" means an area where entry and exit is restricted and controlled.

(c) "Requirements for areas containing 4-Nitrobiphenyl." A regulated area shall be established by an employer where 4-Nitrobiphenyl is manufactured, processed, used, repackaged, released, handled or stored. All such areas shall be controlled in accordance with the requirements for the following category or categories describing the operation involved: (1) *Isolated systems.* Employees working with 4-Nitrobiphenyl within an isolated system such as a "glove box" shall wash their hands and arms upon completion of the assigned task and before engaging in other activities not associated with the isolated system.

(2) *Closed system operation.* Within regulated areas where 4-Nitrobiphenyl is stored in sealed containers, or contained in a closed system, including piping systems, with any sample ports or openings closed while 4-Nitrobiphenyl is contained within: (i) Access shall be restricted to authorized employees only;

(ii) Employees shall be required to wash hands, forearms, face and neck upon each exit from the regulated areas, close to the point of exit and before engaging in other activities.

(3) *Open vessel system operations.* Open vessel system operations as defined in paragraph (b)(13) of this section are prohibited.

(4) *Transfer from a closed system, charging or discharging point operations, or otherwise opening a closed system.* In operations involving "laboratory type hoods," or in locations where 4-Nitrobiphenyl is contained in an otherwise "closed system," but is transferred, charged, or discharged into other normally closed containers, the provisions of this subparagraph shall apply.

(i) Access shall be restricted to authorized employees only;

(ii) Each operation shall be provided with continuous local exhaust ventilation so that air movement is always from ordinary work areas to the operation. Exhaust air shall not be discharged to regulated areas, nonregulated areas or the external environment unless decontaminated. Clean makeup air shall be introduced in sufficient volume to maintain the correct operation of the local exhaust system.

(iii) Employees shall be provided with, and required to wear, clean, full body protective clothing (smocks, coveralls, or long-sleeved shirt and pants), shoe covers and gloves prior to entering the regulated area.

(iv) Employees engaged in 4-Nitrobiphenyl handling operations shall be provided with and required to wear and use a half-face, filter-type respirator for dusts, mists, and fumes, in accordance with § 1910.134. A respirator affording higher levels of protection may be substituted.

(v) Prior to each exit from a regulated area, employees shall be required to remove and leave protective clothing and equipment at the point of exit and at the last exit of the day, to place used clothing and equipment in impervious containers at the point of exit for purposes of decontamination or disposal. The contents of such impervious containers shall be identified, as required under paragraphs (e) (2), (3), and (4) of this section.

(vi) Employees shall be required to wash hands, forearms, face and neck on each exit from the regulated area, close to the point of exit, and before engaging in other activities.

(vii) Employees shall be required to shower after the last exit of the day.

(viii) Drinking fountains are prohibited in the regulated area.

(5) *Maintenance and decontamination activities.* In cleanup of leaks or spills, maintenance or repair operations on contaminated systems or equipment, or any operations involving work in an area where direct contact with 4-Nitrobiphenyl could result, each authorized employee entering that area shall: (i) Be provided with and required to wear clean, impervious garments, including gloves, boots and continuous-air supplied hood in accordance with § 1910.134.

(ii) Be decontaminated before removing the protective garments and hood;

(iii) Be required to shower upon removing the protective garments and hood.

(6) *Laboratory activities.* [Deleted]

(d) *General regulated area requirements*—(1) *Employee identification.* A daily roster of employees entering regulated areas shall be established and maintained. The rosters or a summary of the rosters, shall be retained for a period of 20 years. The rosters and/or summaries shall be provided upon request to authorized representatives of the Assistant Secretary and the Director. In the event that the employer ceases business without a successor, rosters shall be forwarded by registered mail to the Director.

(2) *Emergencies.* In an emergency, immediate measures including, but not limited to, the requirements of subdivisions (i), (ii), (iii), (iv), and (v) of this paragraph shall be implemented. (i) The potentially affected area shall be evacuated as soon as the emergency has been determined.

(ii) Hazardous conditions created by the emergency shall be eliminated and the potentially affected area shall be decontaminated prior to the resumption of normal operations.

(iii) Special medical surveillance by a physician shall be instituted with 24 hours for employees present in the potentially affected area at the time of the emergency. A report of the medical surveillance and any treatment shall be included in the incident report, in accordance with paragraph (f)(2) of this section.

(iv) Where an employee has a known contact with 4-Nitrobiphenyl such employee shall be required to shower as soon as possible, unless contraindicated by physical injuries.

(v) An incident report on the emergency shall be reported as provided in paragraph (f)(2) of this section.

(3) *Hygiene facilities and practices.* (i) Storage or consumption of food, storage or use of containers of beverages, storage or application of cosmetics, smoking, storage of smoking materials, tobacco products or other products for chewing, or the chewing of such products, are prohibited in regulated areas.

(ii) Where employees are required by this section to wash, washing facilities shall be provided in accordance with § 1910.141(d) (1) and (2) (ii) through (vii).

(iii) Where employees are required by this section to shower, shower facilities shall be provided in accordance with § 1910.141(d)(3).

(iv) Where employees wear protective clothing and equipment, clean change rooms shall be provided, in accordance with § 1910.141(e), for the number of such employees required to change clothes.

(v) Where toilets are in regulated areas, such toilets shall be in a separate room.

(4) *Contamination control.* (i) Regulated areas, except for outdoor systems, shall be maintained under pressure negative with respect to nonregulated areas. Local exhaust ventilation may be used to satisfy this requirement. Clean makeup air in equal volume shall replace air removed.

(ii) Any equipment, materials, or other item taken into or removed from a regulated area shall be done so in a manner that does not cause contamination in nonregulated areas or the external environment.

(iii) Decontamination procedures shall be established and implemented to remove 4-Nitrobiphenyl from the surfaces of materials, equipment and the decontamination facility.

(iv) Dry sweeping and dry mopping prohibited.

(e) *Signs, information and training*—(1) *Signs.* (i) Entrances to regulated areas shall be posted with signs bearing the legend:

CANCER-SUSPECT AGENT

AUTHORIZED PERSONNEL ONLY

(ii) Entrances to regulated areas containing operations covered in paragraph (c)(5) of this section shall be posted with signs bearing the legend:

CANCER-SUSPECT AGENT
EXPOSED IN THIS AREA

IMPERVIOUS SUIT INCLUDING GLOVES, BOOTS, AND AIR-SUPPLIED HOOD REQUIRED AT ALL TIMES

AUTHORIZED PERSONNEL ONLY

(iii) Appropriate signs and instructions shall be posted at the entrance to, and exit from, regulated areas, informing employees of the procedures that must be followed in entering and leaving a regulated area.

(2) *Container contents identification.* (i) Containers of 4-Nitrobiphenyl and containers required under paragraphs (c)(4)(v) and (c)(6)(vii)(*b*), and (c)(6)(viii)(*b*) of this section which are accessible only to, and handled only by, authorized employees, or by other employees trained in accordance with subparagraph (5) of this paragraph, may have contents identification limited to a generic or proprietary name, or other proprietary identification, of the carcinogen and percent.

(ii) Containers of 4-Nitrobiphenyl and containers required under paragraphs (c)(4)(v), (c)(6)(vii)(*b*), and (c)(6)(viii)(*b*) of this section which are accessible to, or handled by employees other than authorized employees or employees trained in accordance with subparagraph (5) of this paragraph shall have contents identification which includes the full chemical name and Chemical Abstracts Service Registry number as listed in paragraph (a)(1) of this section.

(iii) Containers shall have the warning words "CANCER-SUSPECT AGENT" displayed immediately under or adjacent to the contents identification.

(iv) Containers which have 4-Nitrobiphenyl contents with corrosive or irritating properties shall have label statements warning of such hazards, noting, if appropriate, particularly sensitive or affected portions of the body.

(3) *Lettering.* Lettering on signs and instructions required by subparagraph (1) shall be a minimum letter height of 2 inches. Labels on containers required under this section shall not be less than ½ the size of the largest lettering on the package, and not less than 8 point type in any instance: *Provided,* That no such required lettering need be more than 1 inch in height.

(4) *Prohibited statements.* No statement shall appear on or near any required sign, label, or instruction which contradicts or detracts from the effect of any required warning, information or instruction.

(5) *Training and indoctrination.* (i) Each employee prior to being authorized to enter a regulated area, shall receive a training and indoctrination program including, but not necessarily limited to:

(*a*) The nature of the carcinogenic hazards of 4-Nitrobiphenyl, including local and systemic toxicity;

(*b*) The specific nature of the operation involving 4-Nitrobiphenyl which could result in exposure;

(*c*) The purpose for and application of the medical surveillance program, including, as appropriate, methods of self-examination;

(*d*) The purpose for and application of decontamination practices and purposes;

(*e*) The purpose for and significance of emergency practices and procedures;

(*f*) The employee's specific role in emergency procedures;

(*g*) Specific information to aid the employee in recognition and evaluation of conditions and situations which may result in the release of 4-Nitrobiphenyl;

(*h*) The purpose for and application of specific first aid procedures and practices;

(*i*) A review of this section at the employee's first training and indoctrination program and annually thereafter.

(ii) Specific emergency procedures shall be prescribed, and posted, and employees shall be familiarized with their terms, and rehearsed in their application.

(iii) All materials relating to the program shall be provided upon request to authorized representatives of the Assistant Secretary and the Director.

(f) *Reports.*—(1) *Operations.* Not later than March 1, 1974, the information required in subparagraphs (i), (ii), (iii), and (iv) of this paragraph shall be reported in writing to the nearest OSHA Area Director. Any changes in such information shall be similarly reported in writing within 15 calendar days of such change.

(i) A brief description and in-plant location of the area(s) regulated and the address of each regulated area;

(ii) The name(s) and other identifying information as to the presence of

4-Nitrobiphenyl in each regulated area;

(iii) The number of employees in each regulated area, during normal operations including maintenance activities; and

(iv) The manner in which 4-Nitrobiphenyl is present in each regulated area; e.g. whether it is manufactured, processed, used, repackaged, released, stored, or otherwise handled.

(2) *Incidents.* Incidents which result in the release of 4-Nitrobiphenyl into any area where employees may be potentially exposed shall be reported in accordance with this subparagraph.

(i) A report of the occurrence of the incident and the facts obtainable at that time including a report on any medical treatment of affected employees shall be made within 24 hours to the nearest OSHA Area Director.

(ii) A written report shall be filed with the nearest OSHA Area Director within 15 calendar days thereafter and shall include:

(*a*) A specification of the amount of material released, the amount of time involved, and an explanation of the procedure used in determining this figure;

(*b*) A description of the area involved, and the extent of known and possible employee exposure and area contamination; and

(*c*) A report of any medical treatment of affected employees, and any medical surveillance program implemented; and

(*d*) An analysis of the circumstances of the incident, and measures taken or to be taken, with specific completion dates, to avoid further similar releases.

(g) *Medical surveillance.* At no cost to the employee, a program of medical surveillance shall be established and implemented for employees considered for assignment to enter regulated areas, and for authorized employees.

(1) *Examinations.* (i) Before an employee is assigned to enter a regulated area, a preassignment physical examination by a physician shall be provided. The examination shall include the personal history of the employee, family and occupational background, including genetic and environmental factors.

(ii) Authorized employees shall be provided periodic physical examinations, not less often than annually, following the preassignment examination.

(iii) In all physical examinations, the examining physician shall consider whether there exist conditions of increased risk, including reduced immunological competence, those undergoing treatment with steroids or cytotoxic agents, pregnancy and cigarette smoking.

(2) *Records.* (i) Employers of employees examined pursuant to this paragraph shall cause to be maintained complete and accurate records of all such medical examinations. Records shall be maintained for the duration of the employee's employment. Upon termination of the employee's employment, including retirement or death, or in the event that the employer ceases business without a successor, records, or notarized true copies thereof, shall be forwarded by registered mail to the Director.

(ii) Records required by this paragraph shall be provided upon request to authorized representatives of the Assistant Secretary or the Director; and upon request of an employee or former employee, to a physician designated by the employee or to a new employer.

(iii) Any physician who conducts a medical examination required by this paragraph shall furnish to the employer a statement of the employee's suitability for employment in the specific exposure.

§ 1910.1004 Alpha-Naphthylamine

(a) *Scope and application.* (1) This section applies to any area in which alpha-Naphthylamine, Chemical Abstracts Service Registry Number 134327 is manufactured, processed, repackaged, released, handled, or stored, but shall not apply to trans-shipment in sealed containers, except for the labeling requirements under paragraphs (e) (2), (3), and (4) of this section.

(2) This section shall not apply to solid or liquid mixtures containing less than 1.0 percent by weight or volume of alpha-Naphthylamine.

(3) This section will not apply to operations involving the destructive distillation of carbonaceous materials, such as occurs in coke ovens.

(b) *Definitions.* For the purposes of this section:

(1) "Absolute filter" is one capable of retaining 99.97 percent of a mono disperse aerosol of 0.3 μm particles.

(2) "Authorized employee" means an employee whose duties require him to be in the regulated area and who has been specifically assigned by the employer.

(3) "Clean change room" means a room where employees put on clean clothing and/or protective equipment in an environment free of alpha-Naphthylamine. The clean change room shall be contiguous to and have an entry from a shower room, when the shower room facilities are otherwise required in this section.

(4) "Closed system" means an operation involving alpha-Naphthylamine where containment prevents the release of alpha-Naphthylamine into regulated areas, nonregulated areas, or the external environment.

(5) "Decontamination" means the inactivation of alpha-Naphthylamine or its safe disposal.

(6) "Director" means the Director, National Institute for Occupational Safety and Health, or any person directed by him or the Secretary of Health, Education, and Welfare to act for the Director.

(7) "Disposal" means the safe removal of alpha-Naphthylamine from the work environment.

(8) "Emergency" means an unforeseen circumstance or set of circumstances resulting in the release of alpha-Naphthylamine which may result in exposure to or contact with alpha-Naphthylamine.

(9) "External environment" means any environment external to regulated and nonregulated areas.

(10) "Isolated system" means a fully enclosed structure other than the vessel of containment of alpha-Naphthylamine, which is impervious to the passage of alpha-Naphthylamine, and which would prevent the entry of alpha-Naphthylamine into regulated areas, nonregulated areas, or the external environment, should leakage or spillage from the vessel of containment occur.

(11) "Laboratory type hood" is a device enclosed on three sides and the top and bottom, designed and maintained so as to draw air inward at an average linear face velocity of 150 feet per minute with a minimum of 125 feet per minute; designed, constructed, and maintained in such a way that an operation involving alpha-Naphthylamine within the hood does not require the insertion of any portion of any employee's body other than his hands and arms.

(12) "Nonregulated area" means any area under the control of the employer where entry and exit is neither restricted nor controlled.

(13) "Open-vessel system" means an operation involving alpha-Naphthylamine in an open vessel, which is not in an isolated system, a laboratory type hood, nor in any other system affording equivalent protection against the entry of alpha-Naphthylamine into regulated areas, nonregulated areas, or the external environment.

(14) "Protective clothing" means clothing designed to protect an employee against contact with or exposure to alpha-Naphthylamine.

(15) "Regulated area" means an area where entry and exit is restricted and controlled.

(c) *Requirements for areas containing alpha-Naphthylamine.* A regulated area shall be established by an employer where alpha-Naphthylamine is manufactured, processed, used, repackaged, released, handled or stored. All such areas shall be controlled in accordance with the requirements for the following category or categories describing the operation involved:

(1) *Isolated systems.* Employees working with alpha-Naphthylamine within an isolated system, such as a "glove box" shall wash their hands and arms upon completion of the assigned task and before engaging in other activities not associated with the isolated system.

(2) *Closed system operation.* Within regulated areas where alpha-Naphthylamine is stored in sealed containers, or contained in a closed system, including piping systems, with any sample ports or openings closed while alpha-Naphthylamine is contained within:

(i) Access shall be restricted to authorized employees only;

(ii) Employees shall be required to wash hands, forearms, face and neck upon each exit from the regulated areas, close to the point of exit and before engaging in other activities.

(3) *Open vessel system operations.* Open vessel system operations as defined in paragraph (b)(13) of this section are prohibited.

(4) *Transfer from a closed system, charging or discharging point operations, or otherwise opening a closed system.* In operations involving "laboratory type hoods," or in locations where alpha-Naphthylamine is contained in an otherwise "closed system," but is transferred, charged, or discharged into other normally closed containers, the provisions of this subparagraph shall apply.

(i) Access shall be restricted to authorized employees only;

(ii) Each operation shall be provided with continuous local exhaust ventilation so that air movement is always from ordinary work areas to the operation. Exhaust air shall not be discharged to regulated areas, nonregulated areas or the external environment unless decontaminated. Clean makeup air shall be introduced in sufficient volume to maintain the correct operation of the local exhaust system.

(iii) Employees shall be provided with, and required to wear, clean, full body protective clothing (smocks, coveralls, or long-sleeved shirt and pants), and shoe covers and gloves prior to entering a regulated area.

(iv) Employees engaged in alpha-Naphthylamine handling operations shall be provided with and required to wear and use a half-face, filter-type respirator for dusts, mists, and fumes, in accordance with § 1910.134. A respirator affording higher levels of protection may be substituted.

(v) Prior to each exit from a regulated area, employees shall be required to remove and leave protective clothing and equipment at the point of exit and at the last exist of the day, to place used clothing and equipment in impervious containers at the point of exit for purposes of decontamination or disposal. The contents of such impervious containers shall be identified, as required under paragraphs (e) (2), (3), and (4) of this section.

(vi) Employees shall be required to wash hands, forearms, face and neck on each exit from the regulated area, close to the point of exit, and before engaging in other activities.

(vii) Employees shall be required to shower after the last exit of the day.

(viii) Drinking fountains are prohibited in the regulated area.

(5) *Maintenance and decontamination activities.* In cleanup of leaks or spills, maintenance or repair operations on contaminated systems or equipment, or any operations involving work in an area where direct contact with alpha-Naphthylamine could result, each authorized employee entering that area shall:

(i) Be provided with and required to wear clean, impervious garments, including gloves, boots and continuous-air supplied hood in accordance with § 1910.134.

(ii) Be decontaminated before removing the protective garments and hood.

(iii) Be required to shower upon removing the protective garments and hood.

(6) *Laboratory activities.* [Deleted]

(d) *General regulated area requirements*—(1) *Employee identification.* A daily roster of employees entering regulated areas shall be established and maintained. The rosters or a summary of the rosters, shall be retained for a period of 20 years. The rosters and/or summaries shall be provided upon request to authorized representatives of the Assistant Secretary and the Director. In the event that the employer ceases business without a successor, rosters shall be forwarded by registered mail to the Director.

(2) *Emergencies.* In an emergency, immediate measures including, but not limited to, the requirements of subdivisions (i), (ii), (iii), (iv), and (v) of this paragraph shall be implemented.

(i) The potentially affected area shall be evacuated as soon as the emergency has been determined.

(ii) Hazardous conditions created by the emergency shall be eliminated and the potentially affected area shall be decontaminated prior to the resumption of normal operations.

(iii) Special medical surveillance by a physician shall be instituted within 24 hours for employees present in the potentially affected area at the time of the emergency. A report of the medical surveillance and any treatment shall be included in the incident report, in accordance with paragraph (f)(2) of this section.

(iv) Where an employee has a known contact with alpha-Naphthylamine, such employee shall be required to shower as soon as possible, unless contraindicated by physical injuries.

(v) An incident report on the emergency shall be reported as provided in paragraph (f)(2) of this section.

(3) *Hygiene facilities and practices.* (i) Storage or consumption of food, storage or use of containers of beverages, storage or application of cosmetics, smoking, storage of smoking materials, tobacco products or other products for chewing, or the chewing of such products, are prohibited in regulated areas.

(ii) Where employees are required by this section to wash, washing facilities shall be provided in accordance with § 1910.141(d) (1) and (2) (ii) through (vii).

(iii) Where employees are required by this section to shower, shower facilities shall be provided in accordance with § 1910.141(d)(3).

(iv) Where employees wear protective clothing and equipment clean change rooms shall be provided, in accordance with § 1910.141(e), for the number of such employees required to change clothes.

(v) Where toilets are in regulated areas, such toilets shall be in a separate room.

(4) *Contamination control.* (i) Regulated areas, except for outdoor systems, shall be maintained under pressure negative with respect to nonregulated areas. Local exhaust ventilation may be used to satisfy this requirement. Clean makeup air in equal volume shall replace air removed.

(ii) Any equipment, material, or other item taken into or removed from a regulated area shall be done so in a manner that does not cause contamination in nonregulated areas or the external environment.

(iii) Decontamination procedures shall be established and implemented to remove alpha-Naphthylamine from the surfaces of materials, equipment and the decontamination facility.

(iv) Dry sweeping and dry mopping are prohibited.

(e) *Signs, information and training.* (1) *Signs.* (i) Entrances to regulated areas shall be posted with signs bearing the legend:

CANCER-SUSPECT AGENT

AUTHORIZED PERSONNEL ONLY

(ii) Entrances to regulated areas containing operations covered in paragraph (c)(5) of this section shall be posted with signs bearing the legend:

CANCER-SUSPECT AGENT EXPOSED IN THIS AREA

IMPERVIOUS SUIT INCLUDING GLOVES, BOOTS, AND AIR-SUPPLIED HOOD REQUIRED AT ALL TIMES

AUTHORIZED PERSONNEL ONLY

(iii) Appropriate signs and instructions shall be posted at the entrance to, and exit from, regulated areas, informing employees of the procedures that must be followed in entering and leaving a regulated area.

(2) *Container contents identification.* (i) Containers of alpha-Naphthylamine and containers required under paragraphs (c)(4)(v) and (c)(6)(vii)(*b*), and (c)(6)(viii)(*b*) of this section which are accessible only to, and handled only by, authorized employees, or by other employees trained in accordance with subparagraph (5) of this paragraph, may have contents identification limited to a generic or proprietary name, or other proprietary identification, of the carcinogen and percent.

(ii) Containers of alpha-Naphthylamine and containers required under paragraphs (c)(4)(v), (c)(6)(vii)(*b*), and (c)(6)(viii)(*b*) of this section which are accessible to, or handled by employees other than authorized employees or employees trained in accordance with subparagraph (5) of this paragraph shall have contents identification which includes the full chemical name and Chemical Abstracts Service Registry number as listed in paragraph (a)(1) of this section.

(iii) Containers shall have the warning words "CANCER-SUSPECT AGENT" displayed immediately under or adjacent to the contents identification.

(iv) Containers which have alpha-Naphthylamine contents with corrosive or irritating properties shall have label statements warning of such hazards, noting, if appropriate, particularly sensitive or affected portions of the body.

(3) *Lettering.* Lettering on signs and instructions required by subparagraph (1) shall be a minimum letter height of 2 inches. Labels on containers required under this section shall not be less than ½ the size of the largest lettering on the package, and not less than 8 point type in any instance; provided that no such required lettering need be more than 1 inch in height.

(4) *Prohibited statements.* No statement shall appear on or near any required sign, label, or instruction which contradicts or detracts from the effect of any required warning, information or instruction.

(5) *Training and indoctrination.* (i) Each employee prior to being authorized to enter a regulated area, shall receive a training and indoctrination program including, but not necessarily limited to: (*a*) The nature of the carcinogenic hazards of alpha-Naphthylamine, including local and systemic toxicity;

(*b*) The specific nature of the operation involving alpha-Naphthylamine which could result in exposure;

(*c*) The purpose for the application of the medical surveillance program, including, as appropriate, methods of self-examination;

(*d*) The purpose for and application of decontamination practices and purposes;

(*e*) The purpose for and significance of emergency practices and procedures;

(*f*) The employee's specific role in emergency procedures;

(*g*) Specific information to aid the employee in recognition and evaluation of conditions and situations which may result in the release of alpha-Naphthylamine;

(*h*) The purpose for and application of specific first aid procedures and practices;

(*i*) A review of this section at the employee's first training and indoctrination program and annually thereafter.

(ii) Specific emergency procedures shall be prescribed, and posted, and employees shall be familiarized with their terms, and rehearsed in their application.

(iii) All materials relating to the program shall be provided upon request to authorized representatives of the Assistant Secretary and the Director.

(f) *Reports*—(1) *Operations.* Not later than March 1, 1974, the information required in subparagraphs (i), (ii), (iii), and (iv) of this paragraph shall be reported in writing to the nearest OSHA Area Director. Any changes in such information shall be similarly reported in writing within 15 calendar days of such change. (i) A brief description and in-plant location of the area(s) regulated and the address of each regulated area;

(ii) The name(s) and other identifying information as to the presence of alpha-Naphthylamine in each regulated area;

(iii) The number of employees in each regulated area, during normal operations including maintenance activities; and

(iv) The manner in which alpha-Naphthylamine is present in each regulated area; e.g. whether it is manufactured, processed, used, repackaged, released, stored, or otherwise handled.

(2) *Incidents.* Incidents which result in the release of alpha-Naphthylamine into any area where employees may be potentially exposed shall be reported in accordance with this subparagraph.

(i) A report of the occurrence of the incident and the facts obtainable at that time including a report on any medical treatment of affected employees shall be made within 24 hours to the nearest OSHA Area Director.

(ii) A written report shall be filed with the nearest OSHA Area Director within 15 calendar days thereafter and shall include:

(*a*) A specification of the amount of material released, the amount of time involved, and an explanation of the procedure used in determining this figure;

(*b*) A description of the area involved, and the extent of known and possible employee exposure and area contamination; and

(*c*) A report of any medical treatment of affected employees, and any medical surveillance program implemented; and

(*d*) An analysis of the circumstances of the incident, and measures taken or to be taken, with specific completion dates, to avoid further similar releases.

(g) *Medical surveillance.* At no cost to the employee, a program of medical surveillance shall be established and implemented for employees considered for assignment to enter regulated areas, and for authorized employees.

(1) *Examinations.* (i) Before an employee is assigned to enter a regulated area, a preassignment physical examination by a physician shall be provided. The examination shall include the personal history of the employee, family and occupational background, including genetic and environmental factors.

(ii) Authorized employees shall be provided periodic physical examinations, not less often than annually, following the preassignment examination.

(iii) In all physical examinations, the examining physician shall consider whether there exist conditions of increased risk, including reduced immunological competence, those undergoing treatment with steroids or cytotoxic agents, pregnancy and cigarette smoking.

(2) *Records.* (i) Employers of employees examined pursuant to this paragraph shall cause to be maintained complete and accurate records of all such medical examinations. Records shall be maintained for the duration of the employee's employment. Upon termination of the employee's employment, including retirement or death, or in the event that the employer ceases business without a successor, records, or notarized true copies thereof, shall be forwarded by registered mail to the Director.

(ii) Records required by this paragraph shall be provided upon request to authorized representatives of the Assistant Secretary or the Director; and upon request of an employee or former employee, to a physician designated by the employee or to a new employer.

(iii) Any physician who conducts a medical examination required by this paragraph shall furnish to the employer a statement of the employee's suitability for employment in the specific exposure.

§ 1910.1006 Methyl chloromethyl ether.

(a) *Scope and application.* (1) This section applies to any area in which methyl chloromethyl ether, Chemical Abstracts Service Registry Number 107302 is manufactured, processed, repackaged, released, handled, or stored, but shall not apply to trans-shipment in sealed containers, except for the labeling requirements under paragraphs (e) (2), (3), and (4) of this section.

(2) This section shall not apply to solid or liquid mixtures containing less than 0.1 percent by weight or volume of methyl chloromethyl ether.

(b) *Definitions.* For the purposes of this section: (1) "Absolute filter" is one capable of retaining 99.97 percent of a mono disperse aerosol of 0.3 μm particles.

(2) "Authorized employee" means an employee whose duties require him to be in the regulated area and who has been specifically assigned by the employer.

(3) "Clean change room" means a room where employees put on clean clothing and/or protective equipment in an environment free of methyl chloromethyl ether. The clean change room shall be contiguous to and have an entry from a shower room, when the shower room facilities are otherwise required in this section.

(4) "Closed system" means an operation involving methyl chloromethyl ether where containment prevents the release of methyl chloromethyl ether into regulated areas, nonregulated areas, or the external environment.

(5) "Decontamination" means the inactivation of methyl chloromethyl ether or its safe disposal.

(6) "Director" means the Director, National Institute for Occupational Safety and Health, or any person directed by him or the Secretary of Health, Education, and Welfare to act for the Director.

(7) "Disposal" means the safe removal of methyl chloromethyl ether from the work environment.

(8) "Emergency" means an unforeseen circumstance or set of circumstances resulting in the release of methyl chloromethyl ether which may result in exposure to or contact with methyl chloromethyl ether.

(9) "External environment" means any environment external to regulated and nonregulated areas.

(10) "Isolated system" means a fully enclosed structure other than the vessel of containment of methyl chloromethyl ether, which is impervious to the passage of methyl chloromethyl ether, and which would prevent the entry of methyl chloromethyl ether into regulated areas, nonregulated areas, or the external environment, should leakage or spillage from the vessel of containment occur.

(11) "Laboratory type hood" is a device enclosed on three sides and the top and bottom, designed and maintained so as to draw air inward at an average linear face velocity of 150 feet per minute with a minimum of 125 feet per minute; designed, constructed, and maintained in such a way that an operation involving methyl chloromethyl ether within the hood does not require the insertion of any portion of any employee's body other than his hands and arms.

(12) "Nonregulated area" means any area under the control of the employer where entry and exit is neither restricted nor controlled.

(13) "Open-vessel system" means an operation involving methyl chloromethyl ether in an open vessel, which is not in an isolated system, a laboratory type hood, nor in any other system affording equivalent protection against the entry of methyl chloromethyl ether into regulated areas, nonregulated areas, or the external environment.

(14) "Protective clothing" means clothing designed to protect an employee against contact with or exposure to methyl chloromethyl ether.

(15) "Regulated area" means an area where entry and exit is restricted and controlled.

(c) *Requirements for areas containing methyl chloromethyl ether.* A regulated area shall be established by an employer where methyl chloromethyl ether is manufactured, processed, used, repackaged, released, handled or stored. All such areas shall be controlled in accordance with the requirements for the following category or categories describing the operation involved:

(1) *Isolated systems.* Employees working with methyl chloromethyl ether within an isolated system, such as a "glove box" shall wash their hands and arms upon completion of the assigned task and before engaging in other activities not associated with the isolated system.

(2) *Closed system operation.* Within regulated areas where methyl chloromethyl ether is stored in sealed containers, or contained in a closed system, including piping systems, with any sample ports or openings closed while methyl chloromethyl ether is contained within. Access shall be restricted to authorized employees only.

(3) *Open vessel system operations.* Open vessel system operations as defined in paragraph (b)(13) of this section are prohibited.

(4) *Transfer from a closed system, charging or discharging point operations, or otherwise opening a closed system.* In operations involving "laboratory type hoods," or in locations where methyl chloromethyl ether is contained in an otherwise "closed system," but is transferred, charged, or discharged into other normally closed containers, the provisions of this subparagraph shall apply. (i) Access shall be restricted to authorized employees only;

(ii) Each operation shall be provided with continuous local exhaust ventilation so that air movement is always from ordinary work areas to the operation. Exhaust air shall not be discharged to regulated areas, nonregulated areas or the external environment unless decontaminated. Clean makeup air shall be introduced in sufficient volume to maintain the correct operation of the local exhaust system.

(iii) Employees shall be provided with, and required to wear, clean, full body protective clothing (smocks, coveralls, or long-sleeved shirt and pants), and gloves prior to entering the regulated area.

(iv) Employees engaged in methyl chloromethyl ether handling operations shall be provided with and required to wear and use a full-face, supplied air respirator, of the continuous flow or pressure-demand type, in accordance with § 1910.124.

(v) Prior to each exit from a regulated area, employees shall be required to remove and leave protective clothing and equipment at the point of exit and at the last exit of the day, to place used clothing and equipment in impervious containers at the point of exit for purposes of decontamination or disposal. The contents of such impervious containers shall be identified, as required under paragraphs (e)(2), (3), and (4) of this section.

(vi) Drinking fountains are prohibited in the regulated area.

(5) *Maintenance and decontamination activities.* In cleanup of leaks or spills, maintenance or repair operations on contaminated systems or equipment, or any operations involving work in an area where direct contact with methyl chloromethyl ether could result, each authorized employee entering that area shall: (i) Be provided with and required to wear clean, impervious garments, including gloves, boots and continuous-air supplied hood in accordance with § 1910.134.

(ii) Be decontaminated before removing the protective garments and hood;

(iii) Be required to shower upon removing the protective garments and hood.

(d) *General regulated area requirements*—(1) *Employee identification.* A daily roster of employees entering regulated areas shall be established and maintained. The rosters or a summary of the rosters, shall be retained for a period of 20 years. The rosters and/or summaries shall be provided upon request to authorized representatives of the Assistant Secretary and the Director. In the event that the employer ceases business without a successor, rosters shall be forwarded by registered mail to the Director.

(2) *Emergencies.* In an emergency, immediate measures including, but not limited to, the requirements of subdivisions (i), (ii), (iii), (iv), and (v) of this paragraph shall be implemented.

(i) The potentially affected area shall be evacuated as soon as the emergency has been determined.

(ii) Hazardous conditions created by the emergency shall be eliminated and the potentially affected area shall be decontaminated prior to the resumption of normal operations.

(iii) Special medical surveillance by a physician shall be instituted within 24 hours for employees present in the potentially affected area at the time of the emergency. A report of the medical surveillance and any treatment shall be included in the incident report, in accordance with paragraph (f)(2) of this section.

(iv) Where an employee has a known contact with methyl chloromethyl ether, such employee shall be required to shower as soon as possible, unless contraindicated by physical injuries.

(v) An incident report on the emergency shall be reported as provided in paragraph (f)(2) of this section.

(3) *Hygiene facilities and practices.* (i) Storage or consumption of food, storage or use of containers of beverages, storage or application of cosmetics, smoking, storage of smoking materials, tobacco products or other products for chewing, or the chewing of such products, are prohibited in regulated areas.

(ii) Where employees wear protective clothing and equipment, clean change rooms shall be provided, in accordance with § 1910.141(e), for the number of such employees required to change clothes.

(iii) Where toilets are in regulated areas, such toilets shall be in a separate room.

(iv) Where employees are required by this section to wash, washing facilities shall be provided in accordance with § 1910.141(d) (1) and (2) (ii) through (vii).

(v) Where employees are required by this section to shower, shower facilities shall be provided in accordance with § 1910.141(d)(3).

(4) *Contamination control.* (i) Regulated areas, except for outdoor systems, shall be maintained under pressure negative with respect to nonregulated areas. Local exhaust ventilation may be used to satisfy this requirement. Clean makeup air in equal volume shall replace air removed.

(ii) Any equipment, material, or other item taken into or removed from a regulated area shall be done so in a manner that does not cause contamination in nonregulated areas or the external environment.

(iii) Decontamination procedures shall be established and implemented to remove methyl chloromethyl ether from the surfaces of materials, equipment and the decontamination facility.

(e) *Signs, information and training.* (1) *Signs.* (i) Entrances to regulated areas shall be posted with signs bearing the legend:

CANCER-SUSPECT AGENT

AUTHORIZED PERSONNEL ONLY

(ii) Entrances to regulated areas containing operations covered in paragraph (c)(5) of this section shall be posted with signs bearing the legend:

CANCER-SUSPECT AGENT
EXPOSED IN THIS AREA

IMPERVIOUS SUIT INCLUDING GLOVES, BOOTS, AND AIR-SUPPLIED HOOD REQUIRED AT ALL TIMES

AUTHORIZED PERSONNEL ONLY

(iii) Appropriate signs and instructions shall be posted at the entrance to, and exit from, regulated areas, informing employees of the procedures that must be followed in entering and leaving a regulated area.

(2) *Container contents identification.* (i) Containers of methyl chloromethyl ether and containers required under paragraphs (c)(4)(v) and (c)(6)(vii)(*b*), and (c)(6)(viii)(*b*) of this section which are accessible only to, and handled only by, authorized employees, or by other employees trained in accordance with subparagraph (5) of this paragraph may have contents identification limited to a generic or proprietary name, or other proprietary identification, of the carcinogen and percent.

(ii) Containers of methyl chloromethyl ether and containers required under paragraphs (c)(4)(v), (c)(6)(vii)(*b*), and (c)(6)(viii)(*b*) of this section which are accessible to, or handled by, employees other than authorized employees or employees trained in accordance with subparagraph (5) of this paragraph shall have contents identification which includes the full chemical name and Chemical Abstracts Service Registry number as listed in paragraph (a)(1) of this section.

(iii) Containers shall have the warning words "CANCER-SUSPECT AGENT" displayed immediately under or adjacent to the contents identification.

(iv) Containers which have methyl chloromethyl ether contents with corrosive or irritating properties shall have label statements warning of such hazards, noting, if appropriate, particularly sensitive or affected portions of the body.

(3) *Lettering.* Lettering on signs and instructions required by subparagraph (1) shall be a minimum letter height of 2 inches. Labels on containers required under this section shall not be less than ½ the size of the largest lettering on the package, and not less than 8 point type in any instance; *provided* that no such required lettering need be more than 1 inch in height.

(4) *Prohibited statements.* No statement shall appear on or near any required sign, label, or instruction which contradicts or detracts from the effect of any required warning, information or instruction.

(5) *Training and indoctrination.* (i) Each employee prior to being authorized to enter a regulated area, shall receive a training and indoctrination program including, but not necessarily limited to:

(*a*) The nature of the carcinogenic hazards of methyl chloromethyl ether, including local and systemic toxicity;

(*b*) The specific nature of the operation involving methyl chloromethyl ether which could result in exposure;

(*c*) The purpose for and application of the medical surveillance program, including, as appropriate, methods of self-examination;

(*d*) The purpose for and application of decontamination practices and purposes;

(*e*) The purpose for and significance of emergency practices and procedures;

(*f*) The employee's specific role in emergency procedures;

(*g*) Specific information to aid the employee in recognition and evaluation of conditions and situations which may result in the release of methyl chloromethyl ether;

(*h*) The purpose for and application of specific first aid procedures and practices;

(*i*) A review of this section at the employee's first training and indoctrination program and annually thereafter.

(ii) Specific emergency procedures shall be prescribed, and posted, and employees shall be familiarized with their terms, and rehearsed in their application.

(iii) All materials relating to the program shall be provided upon request to authorized representatives of the Assistant Secretary and the Director.

(f) *Reports*—(1) *Operations.* Not later than March 1, 1974, the information required in paragraphs (i), (ii), (iii), and (iv) of this paragraph shall be reported in writing to the nearest OSHA Area Director. Any changes in such information shall be similarly reported in writing within 15 calendar days of such change.

(i) A brief description and in-plant location of the area(s) regulated and the address of each regulated area;

(ii) The name(s) and other identifying information as to the presence of methyl chloromethyl ether in each regulated area;

(iii) The number of employees in each regulated area, during normal operations including maintenance activities; and

(iv) The manner in which methyl chloromethyl ether is present in each regulated area; e.g. whether it is manufactured, processed, used, repackaged, released, stored, or otherwise handled.

(2) *Incidents.* Incidents which result in the release of methyl chloromethyl ether into any area where employees may be potentially exposed shall be reported in accordance with this subparagraph.

(i) A report of the occurrence of the incident and the facts obtainable at that time including a report on any medical treatment of affected employees shall be made within 24 hours to the nearest OSHA Area Director.

(ii) A written report shall be filed with the nearest OSHA Area Director within 15 calendar days thereafter and shall include:

(*a*) A specification of the amount of material released, the amount of time involved, and an explanation of the procedure used in determining this figure;

(*b*) A description of the area involved, and the extent of known and possible employee exposure and area contamination; and

(*c*) A report of any medical treatment of affected employees, and any medical surveillance program implemented; and

(*d*) An analysis of the circumstances be taken, with specific completion dates, of the incident, and measures taken or to avoid further similar releases.

(g) *Medical surveillance.* At no cost to the employee, a program of medical surveillance shall be established and implemented for employees considered for assignment to enter regulated areas, and for authorized employees.

(1) *Examinations.* (i) Before an employee is assigned to enter a regulated area, a preassignment physical examination by a physician shall be provided. The examination shall include the personal history of the employee, family and occupational background, including genetic and environmental factors.

(ii) Authorized employees shall be provided periodic physical examinations, not less often than annually, following the preassignment examination.

(iii) In all physical examinations, the examining physician shall consider whether there exist conditions of increased risk, including reduced immunological competence, those undergoing treatment with steroids or cytotoxic agents, pregnancy and cigarette smoking.

(2) *Records.* (i) Employers of employees examined pursuant to this paragraph shall cause to be maintained complete and accurate records of all such medical examinations. Records shall be maintained for the duration of the employee's employment. Upon termination of the employee's employment, including retirement or death, or in the event that the employer ceases business without a successor, records, or notarized true copies thereof, shall be forwarded by registered mail to the Director.

(ii) Records required by this paragraph shall be provided upon request to authorized representatives of the Assistant Secretary or the Director; and upon request of an employee or former employee, to a physician designated by the employee or to a new employer.

(iii) Any physician who conducts a medical examination required by this paragraph shall furnish to the employer a statement of the employee's suitability for employment in the specific exposure.

§ 1910.1007 3,3′-Dichlorobenzidine (and its salts).

(a) *Scope and application.* (1) This section applies to any area in which 3,3′-Dichlorobenzidine (or its salts), Chemical Abstracts Service Registry Number 91941 is manufactured, processed, repackaged, released, handled, or stored, but shall not apply to transshipment in sealed containers except for the labeling requirements under paragraphs (e)(2), (3), and (4) of this section.

(2) This section shall not apply to solid or liquid mixtures containing less than 1 percent by weight or volume of 3,3′-Dichlorobenzidine (or its salts).

(b) *Definitions.* For the purposes of this section: (1) "Absolute filter" is one capable of retaining 99.97 percent of a mono disperse aerosol of 0.3 μm particles.

(2) "Authorized employee" means an employee whose duties require him to be in the regulated area and who has been specifically assigned by the employer.

(3) "Clean change room" means a room where employees put on clean clothing and/or protective equipment in an environment free of 3,3′-Dichlorobenzidine (or its salts). The clean change room shall be contiguous to and have an entry from a shower room, when the shower room facilities are otherwise required in this section.

(4) "Closed system" means an operation involving 3,3′-Dichlorobenzidine (or its salts) where containment prevents the release of 3,3′-Dichlorobenzidine (or its salts) into regulated areas, nonregulated areas, or the external environment.

(5) "Decontamination" means the inactivation of 3,3′-Dichlorobenzidine or its safe disposal.

(6) "Director" means the Director, National Institute for Occupational Safety and Health, or any person directed by him or the Secretary of Health, Education, and Welfare to act for the Director.

(7) "Disposal" means the safe removal of 3,3′-Dichlorobenzidine (or its salts) from the work environment.

(8) "Emergency" means an unforeseen circumstance or set of circumstances resulting in the release of 3,3′-Dichlorobenzidine (or its salts) which may result in exposure to or contact with 3,3′-Dichlorobenzidine (or its salts).

(9) "External environment" means any environment external to regulated and nonregulated areas.

(10) "Isolated system" means a fully enclosed structure other than the vessel of containment, of 3,3′-Dichlorobenzidine (or its salts), which is impervious to the passage of 3,3′-Dichlorobenzidine (or its salts) and which would prevent the entry of 3,3′-Dichlorobenzidine (or its salts) into regulated areas, nonregulated areas, or the external environment, should leakage or spillage from the vessel of containment occur.

(11) "Laboratory type hood" is a device enclosed on three sides and the top and bottom, designed and maintained so as to draw air inward at an average linear face velocity of 150 feet per minute with a minimum of 125 feet per minute; designed, constructed, and maintained in such a way that an operation involving 3,3′-Dichlorobenzidine (or its salts) within the hood does not require the insertion of any portion of any employee's body other than his hands and arms.

(12) "Nonregulated area" means any area under the control of the employer where entry and exit is neither restricted nor controlled.

(13) "Open-vessel system" means an operation involving 3,3′-Dichlorobenzidine (or its salts) in an open vessel, which is not in an isolated system, a laboratory type hood, nor in any other system affording equivalent protection against the entry of 3,3′-Dichlorobenzidine (or its salts) into regulated

areas, nonregulated areas, or the external environment.

(14) "Protective clothing" means clothing designed to protect an employee against contact with or exposure to 3,3'-Dichlorobenzidine (or its salts).

(15) "Regulated area" means an area where entry and exit is restricted and controlled.

(c) *Requirements for areas containing 3,3'-Dichlorobenzidine (or its salts).* A regulated area shall be established by an employer where 3,3'-Dichlorobenzidine (or its salts) is manufactured, processed, used, repackaged, released, handled or stored. All such areas shall be controlled in accordance with the requirements for the following category or categories describing the operation involved: (1) *Isolated systems.* Employees working with 3,3'-Dichlorobenzidine (or its salts) within an isolated system, such as a "glove box" shall wash their hands and arms upon completion of the assigned task and before engaging in other activities not associated with the isolated system.

(2) *Closed system operation.* Within regulated areas where 3,3'-Dichlorobenzidine (or its salts) is stored in sealed containers, or contained in a closed system, including piping systems, with any sample ports or openings closed while 3,3'-Dichlorobenzidine (or its salts) is contained within:

(i) Access shall be restricted to authorized employees only;

(ii) Employees shall be required to wash hands, forearms, face and neck upon each exit from the regulated areas, close to the point of exit and before engaging in other activities.

(3) *Open vessel system operations.* Open vessel system operations as defined in paragraph (b)(13) of this section are prohibited.

(4) *Transfer from a closed system, charging or discharging point operations, or otherwise opening a closed system.* In operations involving "laboratory type hoods," or in locations where 3,3'-Dichlorobenzidine (or its salts) is contained in an otherwise "closed system," but is transferred, charged, or discharged into other normally closed containers, the provisions of this subparagraph shall apply.

(i) Access shall be restricted to authorized employees only;

(ii) Each operation shall be provided with continuous local exhaust ventilation so that air movement is always from ordinary work areas to the operation. Exhaust air shall not be discharged to regulated areas, nonregulated areas or the external environment unless decontaminated. Clean makeup air shall be introduced in sufficient volume to maintain the correct operation of the local exhaust system.

(iii) Employees shall be provided with, and required to wear, clean, full body protective clothing (smocks, coveralls, or long-sleeved shirt and pants), shoe covers and gloves prior to entering the regulated area.

(iv) Employees engaged in 3,3'-Dichlorobenzidine (or its salts) handling operations shall be provided with and required to wear and use a half-face, filter-type respirator for dusts, mists, and fumes, in accordance with § 1910.134. A respirator affording higher levels of protection may be substituted.

(v) Prior to each exit from a regulated area, employees shall be required to remove and leave protective clothing and equipment at the point of exit and at the last exit of the day, to place used clothing and equipment in impervious containers at the point of exit for purposes of decontamination or disposal. The contents of such impervious containers shall be identified, as required under paragraphs (e) (2), (3), and (4) of this section.

(vi) Employees shall be required to wash hands, forearms, face and neck on each exit from the regulated area, close to the point of exit, and before engaging in other activities.

(vii) Employees shall be required to shower after the last exit of the day.

(viii) Drinking fountains are prohibited in the regulated area.

(5) *Maintenance and decontamination activities.* In cleanup of leaks or spills, maintenance or repair operations on contaminated systems or equipment, or any operations involving work in an area where direct contact with 3,3'-Dichlorobenzidine (or its salts) could result, each authorized employee entering that area shall:

(i) Be provided with and required to wear clean, impervious garments, including gloves, boots and continuous-air supplied hood in accordance with § 1910.134.

(ii) Be decontaminated before removing the protective garments and hood;

(iii) Be required to shower upon removing the protective garments and hood.

(6) *Laboratory activities.* [Deleted]

(d) *General regulated area requirements*—(1) *Employee identification.* A daily roster of employees entering regulated areas shall be established and maintained. The rosters or a summary of the rosters, shall be retained for a period of 20 years. The rosters and/or summaries shall be provided upon request to authorized representatives of the Assistant Secretary and the Director. In the event that the employer ceases business without a successor, rosters shall be forwarded by registered mail to the Director.

(2) *Emergencies.* In an emergency, immediate measures including, but not limited to, the requirements of subdivisions (i), (ii), (iii), (iv), and (v) of this paragraph shall be implemented.

(i) The potentially affected area shall be evacuated as soon as the emergency has been determined.

(ii) Hazardous conditions created by the emergency shall be eliminated and the potentially affected area shall be decontaminated prior to the resumption of normal operations.

(iii) Special medical surveillance by a physician shall be instituted within 24 hours for employees present in the potentially affected area at the time of the emergency. A report of the medical surveillance and any treatment shall be included in the incident report, in accordance with paragraph (f)(2) of this section.

(iv) Where an employee has a known contact with 3,3'-Dichlorobenzidine (or its salts), such employee shall be required to shower as soon as possible, unless contraindicated by physical injuries.

(v) An incident report on the emergency shall be reported as provided in paragraph (f)(2) of this section.

(3) *Hygiene facilities and practices.* (i) Storage or consumption of food, storage or use of containers of beverages, storage or application of cosmetics, smoking, storage of smoking materials, tobacco products or other products for chewing, or the chewing of such products, are prohibited in regulated areas.

(ii) Where employees are required by this section to wash, washing facilities shall be provided in accordance with § 1910.141(d)(1) and (2)(ii) through (vii).

(iii) Where employees are required by this section to shower, shower facilities shall be provided in accordance with § 1910.141(d)(3).

(iv) Where employees wear protective clothing and equipment clean change rooms shall be provided, in accordance with § 1910.141(e), for the number of such employees required to change clothes.

(v) Where toilets are in regulated areas, such toilets shall be in a separate room.

(4) *Contamination control.* (i) Regulated areas, except for outdoor systems, shall be maintained under pressure negative with respect to nonregulated areas. Local exhaust ventilation may be used to satisfy this requirement. Clean makeup air in equal volume shall replace air removed.

(ii) Any equipment, material, or other item taken into or removed from a regulated area shall be done so in a manner that does not cause contamination in nonregulated areas or the external environment.

(iii) Decontamination procedures shall be established and implemented to remove 3,3'-Dichlorobenzidine (or its salts) from the surfaces of materials, equipment and the decontamination facility.

(iv) Dry sweeping and dry mopping are prohibited.

(e) *Signs, information and training*—(1) *Signs.* (i) Entrances to regulated areas shall be posted with signs bearing the legend:

CANCER-SUSPECT AGENT

AUTHORIZED PERSONNEL ONLY

(ii) Entrances to regulated areas containing operations covered in paragraph (c)(5) of this section shall be posted with signs bearing the legend:

CANCER-SUSPECT AGENT
EXPOSED IN THIS AREA

IMPERVIOUS SUIT INCLUDING GLOVES, BOOTS, AND AIR-SUPPLIED HOOD REQUIRED AT ALL TIMES

AUTHORIZED PERSONNEL ONLY

(iii) Appropriate signs and instructions shall be posted at the entrance to, and exit from, regulated areas, informing employees of the procedures that must be followed in entering and leaving a regulated area.

(2) *Container contents identification.* (i) Containers of 3,3'-Dichlorobenzidine (or its salts) and containers required under paragraphs (c)(4)(v) and (c)(6)(vii)(*b*), and (c)(6)(viii)(*b*) of this section which are accessible only to, and handled only by, authorized employees, or by other employees trained in accordance with subparagraph (5) of this paragraph, may have contents identification limited to a generic or proprietary name, or other proprietary identification, of the carcinogen and percent.

(ii) Containers of 3,3'-Dichlorobenzidine (or its salts) and containers required under paragraphs (c)(4)(v), (c)(6)(vii)(*b*), and (c)(6)(viii)(*b*) of this section which are accessible to, or handled by, employees other than authorized employees or employees trained in accordance with subparagraph (5) of this paragraph shall have contents identification which includes the full chemical name and Chemical Abstracts Service Registry number as listed in paragraph (a)(1) of this section.

(iii) Containers shall have the warning words "CANCER-SUSPECT AGENT" displayed immediately under or adjacent to the contents identification.

(iv) Containers which have 3,3'-Dichlorobenzidine (or its salts) contents with corrosive or irritating properties shall have label statements warning of such hazards, noting, if appropriate, particularly sensitive or affected portions of the body.

(3) *Lettering.* Lettering on signs and instructions required by subparagraph (1) shall be a minimum letter height of 2 inches. Labels on containers required under this section shall not be less than ½ the size of the largest lettering on the package, and not less than 8 point type in any instance; provided that no such required lettering need be more than 1 inch in height.

(4) *Prohibited statements.* No statement shall appear on or near any required sign, label, or instruction which contradicts or detracts from the effect of any required warning, information or instruction.

(5) *Training and indoctrination.* (i) Each employee prior to being authorized to enter a regulated area, shall receive a training and indoctrination program including, but not necessarily limited to:

(*a*) The nature of the carcinogenic hazards of 3,3'-Dichlorobenzidine (or its salts), including local and systemic toxicity;

(*b*) The specific nature of the operation involving 3,3'-Dichlorobenzidine (or its salts) which could result in exposure;

(*c*) The purpose for and application of the medical surveillance program, including, as appropriate, methods of self-examination;

(*d*) The purpose for and application of decontamination practices and purposes;

(*e*) The purpose for and significance of emergency practices and procedures;

(*f*) The employee's specific role in emergency procedures;

(*g*) Specific information to aid the employee in recognition and evaluation of conditions and situations which may result in the release of 3,3'-Dichlorobenzidine (or its salts);

(*h*) *The purpose for and application of specific first aid procedures and practices;*

(*i*) A review of this section at the employee's first training and indoctrination program and annually thereafter.

(ii) Specific emergency procedures shall be prescribed, and posted, and employees shall be familiarized with their terms, and rehearsed in their application.

(iii) All materials relating to the program shall be provided upon request to authorized representatives of the Assistant Secretary and the Director.

(f) *Reports*—(1) *Operations.* Not later than March 1, 1974, the information required in subparagraphs (i), (ii), (iii), and (iv) of this paragraph shall be reported in writing to the nearest OSHA Area Director. Any changes in such information shall be similarly reported in writing within 15 calendar days of such change. (i) A brief description and in-plant location of the area(s) regulated and the address of each regulated area;

(ii) The name(s) and other identifying information as to the presence of 3,3'-Dichlorobenzidine (or its salts) in each regulated area;

(iii) The number of employees in each regulated area, during normal operations including maintenance activities; and

(iv) The manner in which 3,3'-Dichlorobenzidine (or its salts) is present in each regulated area; e.g. whether it is manufactured, processed, used, repackaged, released, stored, or otherwise handled.

(2) *Incidents.* Incidents which result in the release of 3,3'-Dichlorobenzidine (or its salts) into any area where employees may be potentially exposed shall be reported in accordance with this subparagraph. (i) A report of the occurrence of the incident and the facts obtainable at that time including a report on any medical treatment of affected employees shall be made within 24 hours to the nearest OSHA Area Director.

(ii) A written report shall be filed with the nearest OSHA Area Director within 15 calendar days thereafter and shall include:

(*a*) A specification of the amount of material released, the amount of time involved, and an explanation of the procedure used in determining this figure;

(*b*) A description of the area involved, and the extent of known and possible employee exposure and area contamination, and

(*c*) A report of any medical treatment of affected employees, and any medical surveillance program implemented; and

(*d*) An analysis of the circumstances of the incident, and measures taken or to be taken, with specific completion dates, to avoid further similar releases.

(g) *Medical surveillance.* At no cost to the employee, a program of medical surveillance shall be established and implemented for employees considered for assignment to enter regulated areas, and for authorized employees.

(1) *Examinations.* (i) Before an employee is assigned to enter a regulated area, a preassignment physical examination by a physician shall be provided. The examination shall include the personal history of the employee, family and occupational background, including genetic and environmental factors.

(ii) Authorized employees shall be provided periodic physical examinations, not less often than annually, following the preassignment examination.

(iii) In all physical examinations, the examining physician shall consider whether there exist conditions of increased risk, including reduced immunological competence, those undergoing treatment with steroids of cytotoxic agents, pregnancy and cigarette smoking.

(2) *Records.* (i) Employers of employees examined pursuant to this paragraph shall cause to be maintained complete and accurate records of all such medical examinations. Records shall be maintained for the duration of the employee's employment. Upon termination of the employee's employment, including retirement or death, or in the event that the employer ceases business without a successor, records, or notarized true copies thereof, shall be forwarded by registered mail to the Director.

(ii) Records required by this paragraph shall be provided upon request to authorized representatives of the Assistant Secretary or the Director; and upon request of an employee or former employee, to a physician designated by the employee or to a new employer.

(iii) Any physician who conducts a medical examination required by this paragraph shall furnish to the employer a statement of the employee's suitability for employment in the specific exposure.

§ 1910.1008 bis-Chloromethyl ether.

(a) *Scope and application.* (1) This section applies to any area in which bis-Chloromethyl ether, Chemical Abstracts Service Registry Number 542881 is manufactured, processed, repackaged, released, handled, or stored, but shall not apply to trans-shipment in sealed containers, except for the labeling requirements under paragraphs (e)(2), (3), and (4) of this section.

(2) This section shall not apply to solid or liquid mixtures containing less than 0.1 percent by weight or volume of bis-Chloromethyl ether.

(b) *Definitions.* For the purposes of this section: (1) "Absolute filter" is one capable of retaining 99.97 percent of a mono disperse aerosol of 0.3 μm particles.

(2) "Authorized employee" means an employee whose duties require him to be in the regulated area and who has been specifically assigned by the employer.

(3) "Clean change room" means a room where employees put on clean clothing and/or protective equipment in an environment free of bis-Chloromethyl ether. The clean change room shall be contiguous to and have an entry from a shower room, when the shower room facilities are otherwise required in this section.

(4) "Closed system" means an operation involving bis-Chloromethyl ether where containment prevents the release of bis-Chloromethyl ether into regulated areas, nonregulated areas, or the external environment.

(5) "Decontamination" means the inactivation of bis-Chloromethyl ether or its safe disposal.

(6) "Director" means the Director, National Institute for Occupational Safety and Health, or any person directed by him or the Secretary of Health, Education, and Welfare to act for the Director.

(7) "Disposal" means the safe removal of bis-Chloromethyl ether from the work environment.

(8) "Emergency" means an unforeseen circumstance or set of circumstances resulting in the release of bis-Chloromethyl ether which may result in exposure to or contact with bis-Chloromethyl ether.

(9) "External environment" means any environment external to regulated and nonregulated areas.

(10) "Isolated system" means a fully enclosed structure other than the vessel of containment, of bis-Chloromethyl ether, which is impervious to the passage of, bis-Chloromethyl ether and which would prevent the entry of bis-Chloromethyl ether into regulated areas, nonregulated areas, or the external environment, should leakage or spillage from the vessel of containment occur.

(11) "Laboratory type hood" is a device enclosed on three sides and the top and bottom, designed and maintained so as to draw air inward at an average linear face velocity of 150 feet per minute with a minimum of 125 feet per minute; designed, constructed, and maintained in such a way that an operation involving bis-Chloromethyl ether within the hood does not require the insertion of any portion of any employee's body other than his hands and arms.

(12) "Nonregulated area" means any area under the control of the employer where entry and exit is neither restricted nor controlled.

(13) "Open-vessel system" means an operation involving bis-Chloromethyl ether in an open vessel, which is not in an isolated system, a laboratory type hood, nor in any other system affording equivalent protection against the entry of bis-Chloromethyl ether into regulated areas, nonregulated areas, or the external environment.

(14) "Protective clothing" means clothing designed to protect an employee against contact with or exposure to bis-Chloromethyl ether.

(15) "Regulated area" means an area where entry and exit is restricted and controlled.

(c) *Requirements for areas containing bis-Chloromethyl ether.* A regulated area shall be established by an employer where bis-Chloromethyl ether is manufactured, processed, used, repackaged, released, handled or stored. All such areas shall be controlled in accordance with the requirements for the following category or categories describing the operation involved: (1) *Isolated systems.* Employees working with bis-Chloromethyl ether within an isolated system, such as a "glove box" shall wash their hands and arms upon completion of the assigned task and before engaging in other activities not associated with the isolated system.

(2) *Closed system operation.* Within regulated areas where bis-Chloromethyl ether is stored in sealed containers, or contained in a closed system, including piping systems, with any sample ports or openings closed while bis-Chloromethyl ether is contained within. Access shall be restricted to authorized employees only.

(3) *Open vessel system operations.* Open vessel system operations as defined in paragraph (b)(13) of this section are prohibited.

(4) *Transfer from a closed system, charging or discharging point operations, or otherwise opening a closed system.* In operations involving "laboratory type hoods," or in locations where bis-Chloromethyl ether is contained in an otherwise "closed system," but is transferred, charged, or discharged into other normally closed containers, the provisions of this subparagraph shall apply.

(i) Access shall be restricted to authorized employees only;

(ii) Each operation shall be provided with continuous local exhaust ventilation so that air movement is always from ordinary work areas to the operation. Exhaust air shall not be discharged to regulated areas, nonregulated areas or the external environment unless decontaminated. Clean makeup air shall be introduced in sufficient volume to maintain the correct operation of the local exhaust system.

(iii) Employees shall be provided with, and required to wear, clean, full body protective clothing (smocks, coveralls, or long-sleeved shirt and pants), and gloves prior to entering the regulated area.

(iv) Employees engaged in bis-Chloromethyl ether handling operations shall be provided with and required to wear and use a full-face, supplied air respirator, of the continuous flow or pressure-demand type, in accordance with § 1910.134.

(v) Prior to each exit from a regulated area, employees shall be required to remove and leave protective clothing and equipment at the point of exit and at the last exit of the day, to place used clothing and equipment in impervious containers at the point of exit for purposes of decontamination or disposal. The contents of such impervious containers shall be identified, as required under paragraphs (e)(2), (3), and (4) of this section.

(vi) Drinking fountains are prohibited in the regulated area.

(5) *Maintenance and decontamination activities.* In cleanup of leaks or spills, maintenance or repair operations on contaminated systems or equipment, or any operations involving work in an area where direct contact with bis-Chloromethyl ether could result, each authorized employee entering that area shall:

(i) Be provided with and required to wear clean, impervious garments, including gloves, boots and continuous-air supplied hood in accordance with § 1910.134.

(ii) Be decontaminated before removing the protective garments and hood;

(iii) Be required to shower upon removing the protective garments and hood.

(6) *Laboratory activities.* [Deleted]

(d) *General regulated area requirements*—(1) *Employee identification.* A daily roster of employees entering regulated areas shall be established and maintained. The rosters or a summary of the rosters, shall be retained for a period of 20 years. The rosters and/or summaries shall be provided upon request to authorized representatives of the Assistant Secretary and the Director. In the event that the employer ceases business without a successor, rosters shall be forwarded by registered mail to the Director.

(2) *Emergencies.* In an emergency, immediate measures including, but not limited to, the requirements of subdivisions (i), (ii), (iii), (iv), and (v) of this paragraph shall be implemented.

(i) The potentially affected area shall be evacuated as soon as the emergency has been determined.

(ii) Hazardous conditions created by the emergency shall be eliminated and the potentially affected area shall be decontaminated prior to the resumption of normal operations.

(iii) Special medical surveillance by a physician shall be instituted within 24 hours for employees present in the potentially affected area at the time of the emergency. A report of the medical surveillance and any treatment shall be included in the incident report, in accordance with paragraph (f)(2) of this section.

(iv) Where an employee has a known contact with bis-Chloromethyl ether such employee shall be required to shower as soon as possible, unless contraindicated by physical injuries.

(v) An incident report on the emergency shall be reported as provided in paragraph (f)(2) of this section.

(3) *Hygiene facilities and practices.* (i) Storage or consumption of food, storage or use of containers of beverages, storage or application of cosmetics, smoking, storage of smoking materials, tobacco products or other products for chewing, or the chewing of such products, are prohibited in regulated areas.

(ii) Where employees wear protective clothing and equipment clean change rooms shall be provided, in accordance with § 1910.141(e), for the number of such employees required to change clothes.

(iii) Where toilets are in regulated areas, such toilets shall be in a separate room.

(iv) Where employees are required by this section to wash, washing facilities shall be provided in accordance with § 1910.141(d) (1) and (2) (ii) through (vii).

(v) Where employees are required by this section to shower, shower facilities shall be provided in accordance with § 1910.141(d)(3).

(4) *Contamination control.* (i) Regulated areas, except for outdoor systems, shall be maintained under pressure negative with respect to nonregulated areas. Local exhaust ventilation may be used to satisfy this requirement. Clean makeup air in equal volume shall replace air removed.

(ii) Any equipment, material, or other item taken into or removed from a regulated area shall be done so in a manner that does not cause contamination in nonregulated areas or the external environment.

(iii) Decontamination procedures shall be established and implemented to remove bis-Chloromethyl ether from the surfaces of materials, equipment and the decontamination facility.

(e) *Signs, information and training*—(1) *Signs.* (i) Entrances to regulated areas shall be posted with signs bearing the legend:

CANCER-SUSPECT AGENT

AUTHORIZED PERSONNEL ONLY

(ii) Entrances to regulated areas containing operations covered in paragraph (c)(5) of this section shall be posted with signs bearing the legend:

CANCER-SUSPECT AGENT
EXPOSED IN THIS AREA

IMPERVIOUS SUIT INCLUDING GLOVES, BOOTS, AND AIR-SUPPLIED HOOD REQUIRED AT ALL TIMES

AUTHORIZED PERSONNEL ONLY

(iii) Appropriate signs and instructions shall be posted at the entrance to, and exit from, regulated areas, informing employees of the procedures that must be followed in entering and leaving a regulated area.

(2) *Container contents identifications.* (i) Containers of bis-Chloromethyl ether and containers required under paragraphs (c)(4)(v) and (c)(6)(vii)(*b*), and (c)(6)(viii)(*b*) of this section which are accessible only to, and handled only by, authorized employees, or by other employees trained in accordance with subparagraph (5) of this paragraph, may have contents identification limited to a generic or proprietary name, or other proprietary identification, of the carcinogen and percent.

(ii) Containers of bis-Chloromethyl ether and containers required under paragraphs (c)(4)(v), (c)(6)(vii)(*b*), and (c)(6)(viii)(*b*) of this section which are accessible to, or handled by employees other than authorized employees or employees trained in accordance with subparagraph (5) of this paragraph shall have contents identification which includes the full chemical name and Chemical Abstracts Service Registry number as listed in paragraph (a)(1) of this section.

(iii) Containers shall have the warning words "CANCER-SUSPECT AGENT" displayed immediately under or adjacent to the contents identification.

(iv) Containers which have bis-Chloromethyl ether contents with corrosive or irritating properties shall have label statements warning of such hazards, noting, if appropriate, particularly sensitive or affected portions of the body.

(3) *Lettering.* Lettering on signs and instructions required by subparagraph (1) shall be a minimum letter height of 2 inches. Labels on containers required under this section shall not be less than ½ the size of the largest lettering on the package, and not less than 8 point type in any instance; provided, that no such required lettering need be more than 1 inch in height.

(4) *Prohibited statements.* No statement shall appear on or near any required sign, label, or instruction which contradicts or detracts from the effect of any required warning, information or instruction.

(5) *Training and indoctrination.* (i) Each employee prior to being authorized to enter a regulated area, shall receive a training and indoctrination program including, but not necessarily limited to:

(*a*) The nature of the carcinogenic hazards of bis-Chloromethyl ether, including local and systemic toxicity;

(*b*) The specific nature of the operation involving bis-Chloromethyl ether which could result in exposure;

(*c*) The purpose for and application of the medical surveillance program, including, as appropriate, methods of self-examination;

(*d*) The purpose for and application of decontamination practices and purposes;

(*e*) The purpose for and significance of emergency practices and procedures;

(*f*) The employee's specific role in emergency procedures;

(*g*) Specific information to aid the employee in recognition and evaluation of conditions and situations which may result in the release of bis-Chloromethyl ether;

(*h*) The purpose for and application of specific first aid procedures and practices;

(*i*) A review of this section at the employee's first training and indoctrination program and annually thereafter.

(ii) Specific emergency procedures shall be prescribed, and posted, and employees shall be familiarized with their terms, and rehearsed in their application.

(iii) All materials relating to the program shall be provided upon request to authorized representatives of the Assistant Secretary and the Director.

(f) *Reports*—(1) *Operations.* Not later than March 1, 1974, the information required in subparagraphs (i), (ii), (iii), and (iv) of this paragraph shall be reported in writing to the nearest OSHA Area Director. Any changes in such information shall be similarly reported in writing within 15 calendar days of such change. (i) A brief description and in-plant location of the area(s) regulated and the address of each regulated area;

(ii) The name(s) and other identifying information as to the presence of bis-Chloromethyl ether in each regulated area;

(iii) The number of employees in each regulated area, during normal operations including maintenance activities; and

(iv) The manner in which bis-Chloromethyl ether is present in each regulated area; e.g. whether it is manufactured, processed, used, repackaged, released, stored, or otherwise handled.

(2) *Incidents.* Incidents which result in the release of bis-Chloromethyl ether into any area where employees may be potentially exposed shall be reported in accordance with this subparagraph.

(i) A report of the occurrence of the incident and the facts obtainable at that time including a report on any medical treatment of affected employees shall be made within 24 hours to the nearest OSHA Area Director.

(ii) A written report shall be filed with the nearest OSHA Area Director within 15 calendar days thereafter and shall include:

(*a*) A specification of the amount of material released, the amount of time involved, and an explanation of the procedure used in determining this figure;

(*b*) A description of the area involved, and the extent of known and possible employee exposure and area contamination; and

(*c*) A report of any medical treatment of affected employees, and any medical surveillance program implemented; and

(*d*) An analysis of the circumstances of the incident, and measures taken or to be taken, with specific completion dates, to avoid further similar releases.

(g) *Medical surveillance.* At no cost to the employee, a program of medical surveillance shall be established and implemented for employees considered for assignment to enter regulated areas, and for authorized employees.

(1) *Examinations.* (i) Before an employee is assigned to enter a regulated area, a preassignment physical examination by a physician shall be provided. The examination shall include the personal history of the employee, family and occupational background, including genetic and environmental factors.

(ii) Authorized employees shall be provided periodic physical examinations, not less often than annually, following the preassignment examination.

(iii) In all physical examinations, the examining physician shall consider whether there exist conditions of increased risk, including reduced immunological competence, those undergoing treatment with steroids or cytotoxic agents, pregnancy and cigarette smoking.

(2) *Records.* (i) Employers of employees examined pursuant to this paragraph shall cause to be maintained complete and accurate records of all such medical examinations. Records shall be maintained for the duration of the employee's employment. Upon termination of the employee's employment, including retirement or death, or in the event that the employer ceases business without a successor, records, or notarized true copies thereof, shall be forwarded by registered mail to the Director.

(ii) Records required by this paragraph shall be provided upon request to authorized representatives of the Assistant Secretary or the Director; and upon request of an employee or to a new employer.

(iii) Any physician who conducts a medical examination required by this paragraph shall furnish to the employer a statement of the employee's suitability for employment in the specific exposure.

§ 1910.1009 beta-Naphthylamine.

(a) *Scope and application.* (1) This section applies to any area in which beta-Naphthylamine, Chemical Abstracts Service Registry Number 91598 is manufactured, processed, repackaged, released, handled, or stored, but shall not apply to transshipment in sealed containers, except for the labeling requirements under paragraphs (e) (2), (3), and (4) of this section.

(2) This section shall not apply to solid or liquid mixtures containing less than 0.1 percent by weight or volume of beta-Naphthylamine.

(3) This section will not apply to operations involving the destructive distillation of carbonaceous materials, such as occurs in coke ovens.

(b) *Definitions.* For the purposes of this section:

(1) "Absolute filter" is one capable of retaining 99.97 percent of a mono disperse aerosol of 0.3 μm particles.

(2) "Authorized employee" means an employee whose duties require him to be in the regulated area and who has been specifically assigned by the employer.

(3) "Clean change room" means a room where employees put on clean clothing and/or protective equipment in an environment free of beta-Naphthylamine. The clean change room shall be contiguous to and have an entry from a shower room, when the shower room facilities are otherwise required in this section.

(4) "Closed system" means an operation involving beta-Naphthylamine where containment prevents the release of beta-Naphthylamine into regulated areas, nonregulated areas, or the external environment.

(5) "Decontamination" means the inactivation of beta-Naphthylamine or its safe disposal.

(6) "Director" means the Director, National Institute for Occupational Safety and Health, or any person directed by him or the Secretary of Health, Education, and Welfare to act for the Director.

(7) "Disposal" means the safe removal of beta-Naphthylamine from the work environment.

(8) "Emergency" means an unforeseen circumstance or set of circumstances resulting in the release of beta-Naphthylamine which may result in exposure to or contact with beta-Naphthylamine.

(9) "External environment" means any environment external to regulated and nonregulated areas.

(10) "Isolated system" means a fully enclosed structure other than the vessel of containment of beta-Naphthylamine, which is impervious to the passage of beta-Naphthylamine, and which would prevent the entry of beta-Naphthylamine into regulated areas, nonregulated areas, or the external environment, should leakage or spillage from the vessel of containment occur.

(11) "Laboratory type hood" is a device enclosed on three sides and the top and bottom, designed and maintained so as to draw air inward at an average linear face velocity of 150 feet per minute with a minimum of 125 feet per minute; designed, constructed, and maintained in such a way that an

operation involving beta-Naphthylamine within the hood does not require the insertion of any portion of any employee's body other than his hands and arms.

(12) "Nonregulated area" means any area under the control of the employer where entry and exit is neither restricted nor controlled.

(13) "Open-vessel system" means an operation involving beta-Naphthylamine in an open vessel, which is not in an isolated system, a laboratory type hood, nor in any other system affording equivalent protection against the entry of beta-Naphthylamine into regulated areas, nonregulated areas, or the external environment.

(14) "Protective clothing" means clothing designed to protect an employee against contact with or exposure to beta-Naphthylamine.

(15) "Regulated area" means an area where entry and exit is restricted and controlled.

(c) *Requirements for areas containing beta-Naphthylamine.* A regulated area shall be established by an employer where beta-Naphthylamine is manufactured, processed, used, repackaged, released, handled or stored. All such areas shall be controlled in accordance with the requirements for the following category or categories describing the operation involved: (1) *Isolated systems.* Employees working with beta-Naphthylamine within an isolated system, such as a "glove box" shall wash their hands and arms upon completion of the assigned task and before engaging in other activities not associated with the isolated system.

(2) *Closed system operation.* Within regulated areas where beta-Naphthylamine is stored in sealed containers, or contained in a closed system, including piping systems, with any sample ports or openings closed while beta-Napthylamine is contained within:

(i) Access shall be restricted to authorized employees only;

(ii) Employees shall be required to wash hands, forearms, face and neck upon each exit from the regulated areas, close to the point of exit and before engaging in other activities.

(3) *Open vessel system operations.* Open vessel system operations as defined in paragraph (b)(13) of this section are prohibited.

(4) *Transfer from a closed system, charging or discharging point operations, or otherwise opening a closed system.* In operations involving "laboratory type hoods," or in locations where beta-Naphthylamine is contained in an otherwise "closed system," but is transferred, charged, or discharged into other normally closed containers, the provisions of this paragraph shall apply.

(i) Access shall be restricted to authorized employees only.

(ii) Each operation shall be provided with continuous local exhaust ventilation so that air movement is always from ordinary work areas to the operation. Exhaust air shall not be discharged to regulated areas, nonregulated areas or the external environment unless decontaminated. Clean makeup air shall be introduced in sufficient volume to maintain the correct operation of the local exhaust system.

(iii) Employees shall be provided with, and required to wear, clean, full body protective clothing (smocks, coveralls, or long-sleeved shirt and pants), shoe covers and gloves prior to entering the regulated area.

(iv) Employees engaged in beta-Naphthylamine handling operations shall be provided with and required to wear and use a half-face, filter-type respirator for dusts, mists, and fumes, in accordance with § 1910.134. A respirator affording higher levels of protection may be substituted.

(v) Prior to each exit from a regulated area, employees shall be required to remove and leave protective clothing and equipment at the point of exit and at the last exit of the day, to place used clothing and equipment in impervious containers at the point of exit for purposes of decontamination or disposal. The contents of such impervious containers shall be identified, as required under paragraphs (e) (2), (3), and (4) of this section.

(vi) Employees shall be required to wash hands, forearms, face and neck on each exit from the regulated area, close to the point of exit, and before engaging in other activities.

(vii) Employees shall be required to shower after the last exit of the day.

(viii) Drinking fountains are prohibited in the regulated area.

(5) *Maintenance and decontamination activities.* In cleanup of leaks or spills, maintenance or repair operations on contaminated systems or equipment, or any operations involving work in an area where direct contact with beta-Naphthylamine could result, each authorized employee entering that area shall:

(i) Be provided with and required to wear clean, impervious garments, including gloves, boots and continuous-air suppled hood in accordance with § 1910.134.

(ii) Be decontaminated before removing the protective garments and hood;

(iii) Be required to shower upon removing the protective garments and hood.

(6) *Laboratory activities.* [Deleted]

(d) *General regulated area requirements*—(1) *Employee identification.* A daily roster of employees entering regulated areas shall be established and maintained. The rosters or a summary of the rosters, shall be retained for a period of 20 years. The rosters and/or summaries shall be provided upon request to authorized representatives of the Assistant Secretary and the Director. In the event that the employer ceases business without a successor, rosters shall be forwarded by registered mail to the Director.

(2) *Emergencies.* In an emergency, immediate measures including, but not limited to, the requirements of subdivisions (i), (ii), (iii), (iv), and (v) of this section shall be implemented.

(i) The potentially affected area shall be evacuated as soon as the emergency has been determined.

(ii) Hazardous conditions created by the emergency shall be eliminated and the potentially affected area shall be decontaminated prior to the resumption of normal operations.

(iii) Special medical surveillance by a physician shall be instituted within 24 hours for employees present in the potentially affected area at the time of the emergency. A report of the medical surveillance and any treatment shall be included in the incident report, in accordance with paragraph (f)(2) of this section.

(iv) Where an employee has a known contact with beta-Napthylamine, such employee shall be required to shower as soon as possible, unless contraindicated by physical injuries.

(v) An incident report on the emergency shall be reported as provided in paragraph (f)(2) of this section.

(3) *Hygiene facilities and practices.* (i) Storage or consumption of food, storage or use of containers of beverages, storage or application of cosmetics, smoking, storage of smoking materials, tobacco products or other products for chewing, or the chewing of such products, are prohibited in regulated areas.

(ii) Where employees are required by this section to wash, washing facilities shall be provided in accordance with § 1910.141(d) (1) and (2) (ii) through (vii).

(iii) Where employees are required by this section to shower, shower facilities shall be provided in accordance with § 1910.141(d)(3).

(iv) Where employees wear protective clothing and equipment, clean change rooms shall be provided, in accordance with § 1910.141(e), for the number of such employees required to change clothes.

(v) Where toilets are in regulated areas, such toilets shall be in a separate room.

(4) *Contamination control.* (i) Regulated areas, except for outdoor systems, shall be maintained under pressure negative with respect to nonregulated areas. Local exhaust ventilation may be used to satisfy this require-

ment. Clean makeup air in equal volume shall replace air removed.

(ii) Any equipment, material, or other item taken into or removed from a regulated area shall be done so in a manner that does not cause contamination in nonregulated areas or the external environment.

(iii) Decontamination procedures shall be established and implemented to remove beta-Naphthylamine from the surfaces of materials, equipment and the decontamination facility.

(iv) Dry sweeping and dry mopping are prohibited.

(e) *Signs, information and training*—(1) *Signs.* (i) Entrances to regulated areas shall be posted with signs bearing the legend:

CANCER-SUSPECT AGENT

AUTHORIZED PERSONNEL ONLY

(ii) Entrances to regulated areas containing operations covered in paragraph (c)(5) of this section shall be posted with signs bearing the legend:

CANCER-SUSPECT AGENT
EXPOSED IN THIS AREA

IMPERVIOUS SUITS INCLUDING GLOVES, BOOTS, AND AIR-SUPPLIED HOOD REQUIRED AT ALL TIMES

AUTHORIZED PERSONNEL ONLY

(iii) Appropriate signs and instructions shall be posted at the entrance to, and exit from, regulated areas, informing employees of the procedures that must be followed in entering and leaving a regulated area.

(2) *Container contents identification.* (i) Containers of beta-Naphthylamine and containers required under paragraphs (c)(4)(v) and (c)(6)(vii)(*b*), and (c)(6)(viii)(*b*) of this section which are accessible only to, and handled only by, authorized employees, or by other employees trained in accordance with subparagraph (5) of this paragraph may have contents identification limited to a generic or proprietary name, or other proprietary identification, of the carcinogen and percent.

(ii) Containers of beta-Naphthylamine and containers required under paragraphs (c)(4)(v), (c)(6)(vii)(*b*), and (c)(6)(viii)(*b*) of this section which are accessible to, or handled by employees other than authorized employees or employees trained in accordance with paragraph (5) of this paragraph shall have contents identification which includes the full chemical name and Chemical Abstracts Service Registry number as listed in paragraph (a)(1) of this section.

(iii) Containers shall have the warning words "CANCER-SUSPECT AGENT" displayed immediately under or adjacent to the contents identification.

(iv) Containers which have beta-Naphthylamine contents with corrosive or irritating properties shall have label statements warning of such hazards, noting, if appropriate, particularly sensitive or affected portions of the body.

(3) *Lettering.* Lettering on signs and instructions required by subparagraph (1) shall be a minimum letter height of 2 inches. Labels on containers required under this section shall not be less than ½ the size of the largest lettering on the package, and not less than 8 point type in any instance: *Provided,* That no such required lettering need be more than 1 inch in height.

(4) *Prohibited statements.* No statement shall appear on or near any required sign, label, or instruction which contradicts or detracts from the effect of any required warning, information or instruction.

(5) *Training and indoctrination.* (i) Each employee prior to being authorized to enter a regulated area, shall receive a training and indoctrination program including, but not necessarily limited to:

(*a*) The nature of the carcinogenic hazards of beta-Naphthylamine, including local and systemic toxicity;

(*b*) The specific nature of the operation involving beta-Naphthylamine which could result in exposure;

(*c*) The purpose for and application of the medical surveillance program, including, as appropriate, methods of self-examination;

(*d*) The purpose for and application of decontamination practices and purposes;

(*e*) The purpose for and significance of emergency practices and procedures;

(*f*) The employee's specific role in emergency procedures;

(*g*) Specific information to aid the employee in recognition and evaluation of conditions and situations which may result in the release of beta-Naphthylamine;

(*h*) The purpose for and application of specific first aid procedures and practices;

(*i*) A review of this section at the employee's first training and indoctrination program and annually thereafter.

(ii) Specific emergency procedures shall be prescribed, and posted, and employees shall be familiarized with their terms, and rehearsed in their application.

(iii) All materials relating to the program shall be provided upon request to authorized representatives of the Assistant Secretary and the Director.

(f) *Reports*—(1) *Operations.* Not later than March 1, 1974, the information required in subparagraphs (i), (ii), (iii), and (iv) of this paragraph shall be reported in writing to the nearest OSHA Area Director. Any changes in such information shall be similarly reported in writing within 15 calendar days of such change. (i) A brief description and in-plant location of the area(s) regulated and the address of each regulated area;

(ii) The name(s) and other identifying information as to the presence of beta-Naphthylamine in each regulated area;

(iii) The number of employees in each regulated area, during normal operations including maintenance activities; and

(iv) The manner in which beta-Naphthylamine is present in each regulated area; e.g. whether it is manufactured, processed, used, repackaged, released, stored, or otherwise handled.

(2) *Incidents.* Incidents which result in the release of beta-Naphthylamine into any area where employees may be potentially exposed shall be reported in accordance with this subparagraph.

(i) A report of the occurrence of the incident and the facts obtainable at that time including a report on any medical treatment of affected employees shall be made within 24 hours to the nearest OSHA Area Director.

(ii) A written report shall be filed with the nearest OSHA Area Director within 15 calendar days thereafter and shall include:

(*a*) A specification of the amount of material released, the amount of time involved, and an explanation of the procedure used in determining this figure;

(*b*) A description of the area involved, and the extent of known and possible employee exposure and area contamination;

(*c*) A report of any medical treatment of affected employees, and any medical surveillance program implemented; and

(*d*) An analysis of the circumstances of the incident, and measures taken or to be taken, with specific completion dates, to avoid further similar releases.

(g) *Medical surveillance.* At no cost to the employee, a program of medical surveillance shall be established and implemented for employees considered for assignment to enter regulated areas, and for authorized employees.

(1) *Examinations.* (i) Before an employee is assigned to enter a regulated area, a preassignment physical examination by a physician shall be provided. The examination shall include the personal history of the employee, family and occupational background, including genetic and environmental factors.

(ii) Authorized employees shall be provided periodic physical examinations, not less often than annually, following the preassignment examination.

(iii) In all physical examinations the examining physician shall consider whether there exist conditions of increased risk, including reduced immunological competence, those undergoing treatment with steroids or cytotoxic agents, pregnancy and cigarette smoking.

(2) *Records.* (i) Employers of employees examined pursuant to this paragraph shall cause to be maintained complete and accurate records of all such medical examinations. Records shall be maintained for the duration of the employee's employment. Upon termination of the employee's employment, including retirement or death, or in the event that the employer ceases business without a successor, records, or notarized true copies thereof, shall be forwarded by registered mail to the Director.

(ii) Records required by this paragraph shall be provided upon request to authorized representatives of the Assistant Secretary or the Director; and upon request of an employee or former employee, to a physician designated by the employee or to a new employer.

(iii) Any physician who conducts a medical examination required by this paragraph shall furnish to the employer a statement of the employee's suitability for employment in the specific exposure.

§ 1910.1010 Benzidine.

(a) *Scope and application.* (1) This section applies to any area in which Benzidine, Chemical Abstracts Service Registry Number 92875 is manufactured, processed, repackaged, released, handled, or stored, but shall not apply to transshipment in sealed containers, except for the labeling requirements under paragraphs (e)(2), (3), and (4) of this section.

(2) This section shall not apply to solid or liquid mixutures containing less than 0.1 percent by weight or volume of Benzidine.

(b) *Definitions.* For the purposes of this section: (1) "Absolute filter" is one capable of retaining 99.97 percent of a mono dispense aerosol of 0.3 μm particles.

(2) "Authorized employee" means an employee whose duties require him to be in the regulated area and who has been specifically assigned by the employer.

(3) "Clean change room" means a room where employees put on clean clothing and/or protective equipment in an environment free of Benzidine. The clean change room shall be contiguous to and have an entry from a shower room, when the shower room facilities are otherwise required in this section.

(4) "Closed system" means an operation involving Benzidine where containment prevents the release of Benzidine into regulated areas, nonregulated areas, or the external environment.

(5) "Decontamination" means the inactivation of Benzidine or its safe disposal.

(6) "Director" means the Director, National Institute for Occupational Safety and Health, or any person directed by him or the Secretary of Health, Education, and Welfare to act for the Director.

(7) "Disposal" means the safe removal of Benzidine from the work environment.

(8) "Emergency" means an unforeseen circumstance or set of circumstances resulting in the release of Benzidine which may result in exposure to or contact with Benzidine.

(9) "External environment" means any environment external to regulated and nonregulated areas.

(10) "Isolated system" means a fully enclosed structure other than the vessel of containment of Benzidine, which is impervious to the passage of Benzidine, and which would prevent the entry of Benzidine into regulated areas, nonregulated areas, or the external environment, should leakage or spillage from the vessel of containment occur.

(11) "Laboratory type hood" is a device enclosed on three sides and the top and bottom, designed and maintained so as to draw air inward at an average linear face velocity of 150 feet per minute with a minimum of 125 feet per minute; designed, constructed, and maintained in such a way that an operation involving Benzidine within the hood does not require the insertion of any portion of any employee's body other than his hands and arms.

(12) "Nonregulated area" means any area under the control of the employer where entry and exit is neither restricted nor controlled.

(13) "Open-vessel system" means an operation involving Benzidine in an open vessel, which is not in an isolated system, a laboratory type hood, nor in any other system affording equivalent protection against the entry of Benzidine into regulated areas, nonregulated areas, or the external environment.

(14) "Protective clothing" means clothing designed to protect an employee against contact with or exposure to Benzidine.

(15) "Regulated area" means an area where entry and exit is restricted and controlled.

(c) *Requirements for areas containing Benzidine.* A regulated area shall be established by an employer where Benzidine is manufactured, processed, used, repackaged, released, handled or stored. All such areas shall be controlled in accordance with the requirements for the following category or categories describing the operation involved: (1) *Isolated systems.* Employees working with Benzidine within an isolated system, such as a "glove box" shall wash their hands and arms upon completion of the assigned task and before engaging in other activities not associated with the isolated system.

(2) *Closed system operation.* Within regulated areas where Benzidine is stored in sealed containers, or contained in a closed system, including piping systems, with any sample ports or openings closed while Benzidine is contained within: (i) Access shall be restricted to authorized employees only;

(ii) Employees shall be required to wash hands, forearms, face and neck upon each exit from the regulated areas, close to the point of exit and before engaging in other activities.

(3) *Open vessel system operations.* Open vessel system operations as defined in paragraph (b)(13) of this section are prohibited.

(4) *Transfer from a closed system, charging or discharging point operations, or otherwise opening a closed system.* In operations involving "laboratory type hoods," or in locations where Benzidine is contained in an otherwise "closed system," but is transferred, charged, or discharged into other normally closed containers, the provisions of this subparagraph shall apply.

(i) Access shall be restricted to authorized employees only;

(ii) Each operation shall be provided with continuous local exhaust ventilation so that air movement is always from ordinary work areas to the operation. Exhaust air shall not be discharged to regulated areas, nonregulated areas or the external environment unless decontaminated. Clean makeup air shall be introduced in sufficient volume to maintain the correct operation of the local exhaust system.

(iii) Employees shall be provided with, and required to wear, clean, full body protective clothing (smocks, coveralls, or long-sleeved shirt and pants), shoe covers and gloves prior to entering the regulated area.

(iv) Employees engaged in Benzidine handling operations shall be provided with and required to wear and use a half-face, filter-type respirator for dusts, mists, and fumes, in accordance with § 1910.134. A respirator affording higher levels of protection may be substituted.

(v) Prior to each exit from a regulated area, employees shall be required to remove and leave protective clothing and equipment at the point of exit and at the last exit of the day, to place used clothing and equipment in impervious containers at the point of exit for purposes of decontamination or disposal. The contents of such impervious containers shall be identified, as required under paragraphs (e)(2), (3), and (4) of this section.

(vi) Employees shall be required to wash hands, forearms, face and neck on each exit from the regulated area, close to the point of exit, and before engaging in other activities.

(vii) Employees shall be required to shower after the last exit of the day.

(viii) Drinking fountains are prohibited in the regulated area.

(5) *Maintenance and decontamination activities.* In cleanup of leaks or spills, maintenance or repair operations on contaminated systems or equipment, where direct contact with Benzidine could result, each authorized employee entering that area shall:

(i) Be provided with and required to wear clean, impervious garments, including gloves, boots and continuous-air supplied hood in accordance with § 1910.134.

(ii) Be decontaminated before removing the protective garments and hood;

(iii) Be required to shower upon removing the protective garments and hood.

(6) *Laboratory activities.* [Deleted]

(d) *General regulated area requirements*—(1) *Employee identification.* A daily roster of employees entering regulated areas shall be established and maintained. The rosters or a summary of the rosters, shall be retained for a period of 20 years. The rosters and/or summaries shall be provided upon request to authorized representatives of the Assistant Secretary and the Director. In the event that the employer ceases business without a successor, rosters shall be forwarded by registered mail to the Director.

(2) *Emergencies.* In an emergency, immediate measures including, but not limited to, the requirements of subdivisions (i), (ii), (iii), (iv), and (v) of this paragraph shall be implemented.

(i) The potentially affected area shall be evacuated as soon as the emergency has been determined.

(ii) Hazardous conditions created by the emergency shall be eliminated and the potentially affected area shall be decontaminated prior to the resumption of normal operations.

(iii) Special medical surveillance by a physician shall be instituted within 24 hours for employees present in the potentially affected area at the time of the emergency. A report of the medical surveillance and any treatment shall be included in the incident report, in accordance with paragraph (f)(2) of this section.

(iv) Where an employee has a known contact with Benzidine such employee shall be required to shower as soon as possible unless contraindicated by physical injuries.

(v) An incident report on the emergency shall be reported as provided in paragraph (f)(2) of this section.

(3) *Hygiene facilities and practices.* (i) Storage or consumption of food, storage or use of containers of beverages, storage or application of cosmetics, smoking, storage of smoking materials, tobacco products or other products for chewing, or the chewing of such products, are prohibited in regulated areas.

(ii) Where employees are required by this section to wash, washing facilities shall be provided in accordance with § 1910.141(d)(1) and (2)(ii) through (vii).

(iii) Where employees are required by this section to shower, shower facilities shall be provided in accordance with § 1910.141(d)(3).

(iv) Where employees wear protective clothing and equipment clean change rooms shall be provided, in accordance with § 1910.141(e), for the number of such employees required to change clothes.

(v) Where toilets are in regulated areas, such toilets shall be in a separate room.

(4) *Contamination control.* (i) Regulated areas, except for outdoor systems, shall be maintained under pressure negative with respect to nonregulated areas. Local exhaust ventilation may be used to satisfy this requirement. Clean makeup air in equal volume shall replace air removed.

(ii) Any equipment, material, or other item taken into or removed from a regulated area shall be done so in a manner that does not cause contamination in nonregulated areas or the external environment.

(iii) Decontamination procedures shall be established and implemented to remove Benzidine from the surfaces of materials, equipment and the decontamination facility.

(iv) Dry sweeping and dry mopping are prohibited.

(e) *Signs, information and training*—(1) *Signs.* (i) Entrances to regulated areas shall be posted with signs bearing the legend:

CANCER-SUSPECT AGENT

AUTHORIZED PERSONNEL ONLY

(ii) Entrances to regulated areas containing operations covered in paragraph (c)(5) of this section shall be posted with signs bearing the legend:

CANCER-SUSPECT AGENT
EXPOSED IN THIS AREA

IMPERVIOUS SUIT INCLUDING GLOVES, BOOTS, AND AIR-SUPPLIED HOOD REQUIRED AT ALL TIMES

AUTHORIZED PERSONNEL ONLY

(iii) Appropriate signs and instructions shall be posted at the entrance to, and exit from, regulated areas, informing employees of the procedures that must be followed in entering and leaving a regulated area.

(2) *Container contents identification.* (i) Containers of Benzidine and containers required under paragraphs (c)(4)(v) and (c)(6)(vii)(*b*), and (c)(6)(viii)(*b*) of this section which are accessible only to, and handled only by, authorized employees, or by other employees trained in accordance with subparagraph (5) of this paragraph may have contents identification limited to a generic or proprietary name, or other proprietary identification, of the carcinogen and percent.

(ii) Containers of Benzidine and containers required under paragraphs (c)(4)(v), (c)(6)(vii)(*b*), and (c)(6)(viii)(*b*) of this section which are accessible to, or handled by, employees other than authorized employees or employees trained in accordance with subparagraph (5) of this paragraph shall have contents identification which includes the full chemical name and Chemical Abstracts Service Registry Number as listed in paragraph (a)(1) of this section.

(iii) Containers shall have the warning words "CANCER-SUSPECT AGENT" displayed immediately under or adjacent to the contents identification.

(iv) Containers which have Benzidine contents with corrosive or irritating properties shall have label statements warning of such hazards, noting, if appropriate, particularly sensitive or affected portions of the body.

(3) *Lettering.* Lettering on signs and instructions required by subparagraph (1) shall be a minimum letter height of 2 inches. Labels on containers required under this section shall not be less than ½ the size of the largest lettering on the package, and not less than 8 point type in any instance: *Provided,* That no such required lettering need be more than 1 inch in height.

(4) *Prohibited statements.* No statement shall appear on or near any required sign, label, or instruction which contradicts or detracts from the effect of any required warning, information or instruction.

(5) *Training and indoctrination.* (i) Each employee prior to being authorized to enter a regulated area, shall receive a training and indoctrination

program including, but not necessarily limited to:

(*a*) The nature of the carcinogenic hazards of Benzidine, including local and systemic toxicity;

(*b*) The specific nature of the operation involving Benzidine which could result in exposure;

(*c*) The purpose for and application of the medical surveillance program, including, as appropriate, methods of self-examination;

(*d*) The purpose for and application of decontamination practices and purposes;

(*e*) The purpose for and significance of emergency practices and procedures;

(*f*) The employee's specific role in emergency procedures;

(*g*) Specific information to aid the employee in recognition and evaluation of conditions and situations which may result in the release of Benzidine;

(*h*) The purpose for and application of specific first aid procedures and practices;

(*i*) A review of this section at the employee's first training and indoctrination program and annually thereafter.

(ii) Specific emergency procedures shall be prescribed, and posted, and employees shall be familiarized with their terms, and rehearsed in their application.

(iii) All materials relating to the program shall be provided upon request to authorized representatives of the Assistant Secretary and the Director.

(f) *Reports.* (1) *Operations.* Not later than March 1, 1974, the information required in subparagraphs (i), (ii), (iii), and (iv) of this section shall be reported in writing to the nearest OSHA Area Director. Any changes in such information shall be similarly reported in writing within 15 calendar days of such change.

(i) A brief description and in-plant location of the area(s) regulated and the address of each regulated area;

(ii) The name(s) and other identifying information as to the presence of Benzidine in each regulated area;

(iii) The number of employees in each regulated area, during normal operations including maintenance activities; and

(iv) The manner in which Benzidine is present in each regulated area; e.g. whether it is manufactured, processed, used, repackaged, released, stored, or otherwise handled.

(2) *Incidents.* Incidents which result in the release of Benzidine into any area where employees may be potentially exposed shall be reported in accordance with this paragraph.

(i) A report of the occurrence of the incident and the facts obtainable at that time including a report on any medical treatment of affected employees shall be made within 24 hours to the nearest OSHA Area Director.

(ii) A written report shall be filed with the nearest OSHA Area Director within 15 calendar days thereafter and shall include:

(*a*) A specification of the amount of material released, the amount of time involved, and an explanation of the procedure used in determining this figure;

(*b*) A description of the area involved, and the extent of known and possible employee exposure and area contamination; and

(*c*) A report of any medical treatment of affected employees, and any medical surveillance program implemented; and

(*d*) An analysis of the circumstances of the incident, and measures taken or to be taken, with specific completion dates, to avoid further similar releases.

(g) *Medical surveillance.* At no cost to the employee, a program of medical surveillance shall be established and implemented for employees considered for assignment to enter regulated areas, and for authorized employees.

(1) *Examinations.* (i) Before an employee is assigned to enter a regulated area, a preassignment physical examination by a physician shall be provided. The examination shall include the personal history of the employee, family and occupational background, including genetic and environmental factors.

(ii) Authorized employees shall be provided periodic physical examinations, not less often than annually, following the preassignment examination.

(iii) In all physical examinations, the examining physician shall consider whether there exist conditions of increased risk, including reduced immunological competence, those undergoing treatment with steroids or cytotoxic agents, pregnancy and cigarette smoking.

(2) *Records.* (i) Employers of employees examined pursuant to this paragraph shall cause to be maintained complete and accurate records of all such medical examinations. Records shall be maintained for the duration of the employee's employment. Upon termination of the employee's employment, including retirement or death, or in the event that the employer ceases business without a successor, records, or notarized true copies thereof, shall be forwarded by registered mail to the Director.

(ii) Records required by this paragraph shall be provided upon request to authorized representatives of the Assistant Secretary or the Director; and upon request of an employee or former employee, to a physician designated by the employee or to a new employer.

(iii) Any physician who conducts a medical examination required by this paragraph shall furnish to the employer a statement of the employee's suitability for employment in the specific exposure.

§ 1910.1011 4-Aminodiphenyl.

(a) *Scope and application.* (1) This section applies to any area in which 4-Aminodiphenyl, Chemical Abstracts Service Registry Number 92671 is manufactured, processed, repackaged, released, handled, or stored, but shall not apply to trans-shipment in sealed containers, except for the labeling requirements under paragraphs (e) (2), (3), and (4) of this section.

(2) This section shall not apply to solid or liquid mixtures containing less than 0.1 percent by weight or volume of 4-Aminodiphenyl.

(b) *Definitions.* For the purposes of this section:

(1) "Absolute filter" is one capable of retaining 99.97 percent of a mono disperse aerosol of 0.3 μm particles.

(2) "Authorized employee" means an employee whose duties require him to be in the regulated area and who has been specifically assigned by the employer.

(3) "Clean change room" means a room where employees put on clean clothing and/or protective equipment in an environment free of 4-Aminodiphenyl. The clean change room shall be contiguous to and have an entry from a shower room, when the shower room facilities are otherwise required in this section.

(4) "Closed system" means an operation involving 4-Aminodiphenyl where containment prevents the release of 4-Aminodiphenyl into regulated areas, nonregulated area, or the external environment.

(5) "Decontamination" means the inactivation of 4-Aminodiphenyl or its safe disposal.

(6) "Director" means the Director, National Institute for Occupational Safety and Health, or any person directed by him or the Secretary of Health, Education, and Welfare to act for the Director.

(7) "Disposal" means the safe removal of 4-Aminodiphenyl from the work environment.

(8) "Emergency" means an unforeseen circumstance or set of circumstances resulting in the release of 4-Aminodiphenyl which may result in exposure to or contact with 4-Aminodiphenyl.

(9) "External environment" means any environment external to regulated and nonregulated areas.

(10) "Isolated system" means a fully enclosed structure other than the vessel of containment of 4-Aminodiphenyl, which is impervious to the passage of 4-Aminodiphenyl, and

which would prevent the entry of 4-Aminodiphenyl into regulated areas, nonregulated areas, or the external environment, should leakage or spillage from the vessel of containment occur.

(11) "Laboratory type hood" is a device enclosed on three sides and the top and bottom, designed and maintained so as to draw air inward at an average linear face velocity of 150 feet per minute with a minimum of 125 feet per minute; designed, constructed, and maintained in such a way that an operation involving 4-Aminodiphenyl within the hood does not require the insertion of any portion of any employee's body other than his hands and arms.

(12) "Nonregulated area" means any area under the control of the employer where entry and exit is neither restricted nor controlled.

(13) "Open-vessel system" means an operation involving 4-Aminodiphenyl in an open vessel, which is not in an isolated system, a laboratory type hood, nor in any other system affording equivalent protection against the entry of 4-Aminodiphenyl into regulated areas, nonregulated areas, or the external environment.

(14) "Protective clothing" means clothing designed to protect an employee against contact with or exposure to 4-Aminodiphenyl.

(15) "Regulated area" means an area where entry and exit is restricted and controlled.

(c) *Requirements for areas containing 4-Aminodiphenyl.* A regulated area shall be established by an employer where 4-Aminodiphenyl is manufactured, processed, used, repackaged, released, handled or stored. All such areas shall be controlled in accordance with the requirements for the following category or categories describing the operation involved: (1) *Isolated systems.* Employees working with 4-Aminodiphenyl within an isolated system, such as a "glove box" shall wash their hands and arms upon completion of the assigned task and before engaging in other activities not associated with the isolated system.

(2) *Closed system operation.* Within regulated areas where 4-Aminodiphenyl is stored in sealed containers, or contained in a closed system, including piping systems, with any sample ports or openings closed while 4-Aminodiphenyl is contained within: (i) Access shall be restricted to authorized employees only;

(ii) Employees shall be required to wash hands, forearms, face and neck upon each exit from the regulated areas, close to the point of exit and before engaging in other activities.

(3) *Open vessel sytem operations.* Open vessel system operations as defined in paragraph (b)(13) of this section are prohibited.

(4) *Transfer from a closed system, charging or discharging point operations, or otherwise opening a closed system.* In operations involving "laboratory type hoods," or in locations where 4-Aminodiphenyl is contained in an otherwise "closed system," but is transferred, charged, or discharged into other normally closed containers, the provisions of this subparagraph shall apply.

(i) Access shall be restricted to authorized employees only;

(ii) Each operation shall be provided with continuous local exhaust ventilation so that air movement is always from ordinary work areas to the operation. Exhaust air shall not be discharged to regulated areas, nonregulated areas or the external environment unless decontaminated. Clean makeup air shall be introduced in sufficient volume to maintain the correct operation of the local exhaust system.

(iii) Employees shall be provided with, and required to wear, clean, full body protective clothing (smocks, coveralls, or long-sleeved shirt and pants), shoe covers and gloves prior to entering the regulated area.

(iv) Employees engaged in 4-Aminodiphenyl handling operations shall be provided with and required to wear and use a half-face, filter-type respirator for dusts, mists, and fumes, in accordance with § 1910.134. A respirator affording higher levels of protection may be substituted.

(v) Prior to each exit from a regulated area, employees shall be required to remove and leave protective clothing and equipment at the point of exit and at the last exit of the day, to place used clothing and equipment in impervious containers at the point of exit for purposes of decontamination or disposal. The contents of such impervious containers shall be identified, as required under paragraphs (e) (2), (3), and (4) of this section.

(vi) Employees shall be required to wash hands, forearms, face and neck on each exit from the regulated area, close to the point of exit, and before engaging in other activities.

(vii) Employees shall be required to shower after the last exit of the day.

(viii) Drinking fountains are prohibited in the regulated area.

(5) *Maintenance and decontamination activities.* In cleanup of leaks or spills, maintenance or repair operations on contaminated systems or equipment, where direct contact with 4-Aminodiphenyl could result, each authorized employee entering that area shall: (i) Be provided with and required to wear clean, impervious garments, including gloves, boots and continuous-air supplied hood in accordance with § 1910.134.

(ii) Be decontaminated before removing the protective garments and hood;

(iii) Be required to shower upon removing the protective garments and hood.

(6) *Laboratory activities.* [Deleted]

(d) *General regulated area requirements*—(1) *Employee identification.* A daily roster of employees entering regulated areas shall be established and maintained. The rosters, or a summary of the rosters, shall be retained for a period of 20 years. The rosters and/or summaries shall be provided upon request to authorized representatives of the Assistant Secretary and the Director. In the event that the employer ceases business without a successor, rosters shall be forwarded by registered mail to the Director.

(2) *Emergencies.* In an emergency, immediate measures including, but not limited to, the requirements of subdivisions (i), (ii), (iii), (iv), and (v) of this paragraph shall be implemented.

(i) The potentially affected area shall be evacuated as soon as the emergency has been determined.

(ii) Hazardous conditions created by the emergency shall be eliminated and the potentially affected area shall be decontaminated prior to the resumption of normal operations.

(iii) Special medical surveillance by a physician shall be instituted within 24 hours for employees present in the potentially affected area at the time of the emergency. A report of the medical surveillance and any treatment shall be included in the incident report, in accordance with paragraph (f)(2) of this section.

(iv) Where an employee has a known contact with 4-Aminodiphenyl such employee shall be required to shower as soon as possible, unless contraindicated by physical injuries.

(v) An incident report on the emergency shall be reported as provided in paragraph (f)(2) of this section.

(3) *Hygiene facilities and practices.* (i) Storage or consumption of food, storage or use of containers of beverages, storage or application of cosmetics, smoking, storage of smoking materials, tobacco products or other products for chewing, or the chewing of such products, are prohibited in regulated areas.

(ii) Where employees are required by this section to wash, washing facilities shall be provided in accordance with § 1910.141(d) (1) and (2) (ii) through (vii).

(iii) Where employees are required by this section to shower, shower facilities shall be provided in accordance with § 1910.141(d)(3).

(iv) Where employees wear protective clothing and equipment clean change rooms shall be provided, in accordance with § 1910.141(e), for the number of such employees required to change clothes.

(v) Where toilets are in regulated areas, such toilets shall be in a separate room.

(4) *Contamination control.* (i) Regulated areas, except for outdoor systems, shall be maintained under pressure negative with respect to nonregulated areas. Local exhaust ventilation may be used to satisfy this requirement. Clean makeup air in equal volume shall replace air removed.

(ii) Any equipment, materials, or other item taken into or removed from a regulated area shall be done so in a manner that does not cause contamination in nonregulated areas or the external environment.

(iii) Decontamination procedures shall be established and implemented to remove 4-Aminodiphenyl from the surfaces of materials, equipment and the decontamination facility.

(iv) Dry sweeping and dry mopping are prohibited.

(e) *Signs, information and training*—(1) *Signs.* (i) Entrances to regulated areas shall be posted with signs bearing the legend:

CANCER-SUSPECT AGENT

AUTHORIZED PERSONNEL ONLY

(ii) Entrances to regulated areas containing operations covered in paragraph (c)(5) of this section shall be posted with signs bearing the legend:

CANCER-SUSPECT AGENT
EXPOSED IN THIS AREA

IMPERVIOUS SUIT INCLUDING GLOVES, BOOTS, AND AIR-SUPPLIED HOOD REQUIRED AT ALL TIMES

AUTHORIZED PERSONNEL ONLY

(iii) Appropriate signs and instructions shall be posted at the entrance to, and exit from, regulated areas, informing employees of the procedures that must be followed in entering and leaving a regulated area.

(2) *Container contents identification.* (i) Containers of 4-Aminodiphenyl and containers required under paragraphs (c)(4)(v) and (c)(6)(vii)(*b*), and (c)(6)(viii)(*b*) of this section which are accessible only to, and handled only by, authorized employees, or by other employees trained in accordance with subparagraph (5) of this paragraph, may have contents identification limited to a generic or proprietary name, or other proprietary identification, of the carcinogen and percent.

(ii) Containers of 4-Aminodiphenyl and containers required under paragraphs (c)(4)(v), (c)(6)(vii)(*b*), and (c)(6)(viii)(*b*) of this section which are accessible to, or handled by, employees other than authorized employees or employees trained in accordance with subparagraph (5) of this paragraph shall have contents identification which includes the full chemical name and Chemical Abstracts Service Registry number as listed in paragraph (a)(1) of this section.

(iii) Containers shall have the warning words "CANCER-SUSPECT AGENT" displayed immediately under or adjacent to the contents identification.

(iv) Containers which have 4-Aminodiphenyl contents with corrosive or irritating properties shall have label statements warning of such hazards, noting, if appropriate, particularly sensitive or affected portions of the body.

(3) *Lettering.* Lettering on signs and instructions required by subparagraph (1) shall be a minimum letter height of 2 inches. Labels on containers required under this section shall not be less than ½ the size of the largest lettering on the package, and not less than 8 point type in any instance: *Provided,* That no such required lettering need be more than 1 inch in height.

(4) *Prohibited statements.* No statement shall appear on or near any required sign, label, or instruction which contradicts or detracts from the effect of any required warning, information or instruction.

(5) *Training and indoctrination.* (i) Each employee prior to being authorized to enter a regulated area, shall receive a training and indoctrination program including, but not necessarily limited to:

(*a*) The nature of the carcinogenic hazards of 4-Aminodiphenyl, including local and systemic toxicity;

(*b*) The specific nature of the operation involving 4-Aminodiphenyl which could result in exposure;

(*c*) The purpose for and application of the medical surveillance program, including, as appropriate, methods of self-examination;

(*d*) The purpose for and application of decontamination practices and purposes;

(*e*) The purpose for and significance of emergency practices and procedures;

(*f*) The employee's specific role in emergency procedures;

(*g*) Specific information to aid the employee in recognition and evaluation of conditions and situations which may result in the release of 4-Aminodiphenyl;

(*h*) The purpose for and application of specific first aid procedures and practices;

(*i*) A review of this section at the employee's first training and indoctrination program and annually thereafter.

(ii) Specific emergency procedures shall be prescribed, and posted, and employees shall be familiarized with their terms, and rehearsed in their application.

(iii) All materials relating to the program shall be provided upon request to authorized representatives of the Assistant Secretary and the Director.

(f) *Reports*—(1) *Operations.* Not later than March 1, 1974, the information required in subparagraphs (i), (ii), (iii), and (iv) of this paragraph shall be reported in writing to the nearest OSHA Area Director. Any changes in such information shall be similarly reported in writing within 15 calendar days of such change.

(i) A brief description and in-plant location of the area(s) regulated and the address of each regulated area;

(ii) The name(s) and other identifying information as to the presence of 4-Aminodiphenyl in each regulated area;

(iii) The number of employees in each regulated area, during normal operations including maintenance activities; and

(iv) The manner in which 4-Aminodiphenyl is present in each regulated area; e.g. whether it is manufactured, processed, used, repackaged, released, stored, or otherwise handled.

(2) *Incidents.* Incidents which result in the release of 4-Aminodiphenyl into any area where employees may be potentially exposed shall be reported in accordance with this subparagraph.

(i) A report of the occurrence of the incident and the facts obtainable at that time including a report on any medical treatment of affected employees shall be made within 24 hours to the nearest OSHA Area Director.

(ii) A written report shall be filed with the nearest OSHA Area Director within 15 calendar days thereafter and shall include:

(*a*) A specification of the amount of material released, the amount of time involved, and an explanation of the procedure used in determining this figure;

(*b*) A description of the area involved, and the extent of known and possible employee exposure and area contamination; and

(*c*) A report of any medical treatment of affected employees, and any medical surveillance program implemented; and

(*d*) An analysis of the circumstances of the incident, and measures taken or to be taken, with specific completion dates, to avoid further similar releases.

(g) *Medical surveillance.* At no cost to the employee, a program of medical surveillance shall be established and implemented for employees considered for assignment to enter regulated areas, and for authorized employees.

(1) *Examinations.* (i) Before an employee is assigned to enter a regulated area, a preassignment physical examination by a physician shall be pro-

vided. The examination shall include the personal history of the employee, family and occupational background, including genetic and environmental factors.

(ii) Authorized employees shall be provided periodic physical examinations, not less often than annually, following the preassignment examination.

(iii) In all physical examinations, the examining physician shall consider whether there exist conditions of increased risk, including reduced immunological competence, those undergoing treatment with steroids or cytotoxic agents, pregnancy and cigarette smoking.

(2) *Records.* (i) Employers of employees examined pursuant to this paragraph shall cause to be maintained complete and accurate records of all such medical examinations. Records shall be maintained for the duration of the employee's employment. Upon termination of the employee's employment, including retirement or death, or in the event that the employer ceases business without a successor, records, or notarized true copies thereof, shall be forwarded by registered mail to the Director.

(ii) Records required by this paragraph shall be provided upon request to authorized representatives of the Assistant Secretary or the Director; and upon request of an employee or former employee, to a physician designated by the employee or to a new employer.

(iii) Any physician who conducts a medical examination required by this paragraph shall furnish to the employer a statement of the employee's suitability for employment in the specific exposure.

§ 1910.1012 Ethyleneimine.

(a) *Scope and application.* (1) This section applies to any area in which Ethyleneimine, Chemical Abstracts Service Registry Number 151564 is manufactured, processed, repackaged, released, handled, or stored, but shall not apply to transshipment in sealed containers, except for the labeling requirements under paragraphs (e) (2), (3), and (4) of this section.

(2) This section shall not apply to solid or liquid mixtures containing less than 1.0 percent by weight or volume of Ethyleneimine.

(b) *Definitions.* For the purposes of this section: (1) "Absolute filter" is one capable of retaining 99.97 percent of a mono disperse aerosol of 0.3 μm particles.

(2) "Authorized employee" means an employee whose duties require him to be in the regulated area and who has been specifically assigned by the employer.

(3) "Clean change room" means a room where employees put on clean clothing and/or protective equipment in an environment free of Ethyleneimine. The clean change room shall be contiguous to and have an entry from a shower room, when the shower room facilities are otherwise required in this section.

(4) "Closed system" means an operation involving Ethyleneimine where containment prevents the release of Ethyleneimine into regulated areas, nonregulated areas, or the external environment.

(5) "Decontamination" means the inactivation of Ethyleneimine or its safe disposal.

(6) "Director" means the Director, National Institute for Occupational Safety and Health, or any person directed by him or the Secretary of Health, Education, and Welfare to act for the Director.

(7) "Disposal" means the safe removal of Ethyleneimine from the work environment.

(8) "Emergency" means an unforeseen circumstance or set of circumstances resulting in the release of Ethyleneimine which may result in exposure to or contact with Ethyleneimine.

(9) "External environment" means any environment external to regulated and nonregulated areas.

(10) "Isolated system" means a fully enclosed structure other than the vessel of containment of Ethyleneimine, which is impervious to the passage of Ethyleneimine, and which would prevent the entry of Ethyleneimine into regulated areas, nonregulated areas, or the external environment, should leakage or spillage from the vessel of containment occur.

(11) "Laboratory type hood" is a device enclosed on three sides and the top and bottom, designed and maintained so as to draw air inward at an average linear face velocity of 150 feet per minute with a minimum of 125 feet per minute; designed, constructed, and maintained in such a way that an operation involving Ethyleneimine within the hood does not require the insertion of any portion of any employee's body other than his hands and arms.

(12) "Nonregulated area" means any area under the control of the employer where entry and exit is neither restricted nor controlled.

(13) "Open-vessel system" means an operation involving Ethyleneimine in an open vessel, which is not in an isolated system, a laboratory type hood, nor in any other system affording equivalent protection against the entry of Ethyleneimine into regulated areas, nonregulated areas, or the external environment.

(14) "Protective clothing" means clothing designed to protect an employee against contact with or exposure to Ethyleneimine.

(15) "Regulated area" means an area where entry and exit is restricted and controlled.

(c) *Requirements for areas containing Ethyleneimine.* A regulated area shall be established by an employer where Ethyleneimine is manufactured, processed, used, repackaged, released, handled or stored. All such areas shall be controlled in accordance with the requirements for the following category or categories describing the operation involved:

(1) *Isolated systems.* Employees working with Ethyleneimine within an isolated system, such as a "glove box" shall wash their hands and arms upon completion of the assigned task and before engaging in other activities not associated with the isolated system.

(2) *Closed system operation.* Within regulated areas where Ethyleneimine is stored in sealed containers, or contained in a closed system, including piping systems, with any sample ports or openings closed while Ethyleneimine is contained within: Access shall be restricted to authorized employees only.

(3) *Open vessel system operations.* Open vessel system operations as defined in paragraph (b)(13) of this section are prohibited.

(4) *Transfer from a closed system, charging or discharging point operations, or otherwise opening a closed system.* In operations involving "laboratory type hoods," or in locations where Ethyleneimine is contained in an otherwise "closed system," but is transferred, charged, or discharged into other normally closed containers, the provisions of this subparagraph shall apply.

(i) Access shall be restricted to authorized employees only;

(ii) Each operation shall be provided with continuous local exhaust ventilation so that air movement is always from ordinary work areas to the operation. Exhaust air shall not be discharged to regulated areas, nonregulated areas or the external environment unless decontaminated. Clean makeup air shall be introduced in sufficient volume to maintain the correct operation of the local exhaust system.

(iii) Employees shall be provided with, and required to wear, clean, full body protective clothing (smocks, coveralls, or long-sleeved shirt and pants), and gloves prior to entering the regulated area.

(iv) Employees engaged in Ethyleneimine handling operations shall be provided with and required to wear and use a full-face, supplied air respirator, of the continuous flow or pressure-demand type, in accordance with § 1910.134.

(v) Prior to each exit from a regulated area, employees shall be required to remove and leave protective clothing and equipment at the point of exit and at the last exit of the day, to place used clothing and equipment in impervious containers at the point of exit for purposes of decontamination or disposal. The contents of such impervious containers shall be identified, as required under paragraphs (e) (2), (3), and (4) of this section.

(vi) Drinking fountains are prohibited in the regulated area.

(5) *Maintenance and decontamination activities.* In cleanup of leaks or spills, maintenance or repair operations on contaminated systems or equipment, where direct contact with Ethyleneimine could result, each authorized employee entering that area shall: (i) Be provided with and required to wear clean, impervious garments, including gloves, boots and continuous-air supplied hood in accordance with § 1910.134.

(ii) Be decontaminated before removing the protective garments and hood;

(iii) Be required to shower upon removing the protective garments and hood.

(6) *Laboratory activities.* [Deleted]

(d) *General regulated area requirements*—(1) *Employee identification.* A daily roster of employees entering regulated areas shall be established and maintained. The rosters or a summary of the rosters, shall be retained for a period of 20 years. The rosters and/or summaries shall be provided upon request to authorized representatives of the Assistant Secretary and the Director. In the event that the employer ceases business without a successor, rosters shall be forwarded by registered mail to the Director.

(2) *Emergencies.* In an emergency, immediate measures including, but not limited to, the requirements of subdivisions (i), (ii), (iii), (iv), and (v) of this paragraph shall be implemented.

(i) The potentially affected area shall be evacuated as soon as the emergency has been determined.

(ii) Hazardous conditions created by the emergency shall be eliminated and the potentially affected area shall be decontaminated prior to the resumption of normal operations.

(iii) Special medical surveillance by a physician shall be instituted within 24 hours for employees present in the potentially affected area at the time of the emergency. A report of the medical surveillance and any treatment shall be included in the incident report, in accordance with paragraph (f)(2) of this section.

(iv) Where an employee has a known contact with Ethyleneimine, such employee shall be required to shower as soon as possible, unless contraindicated by physical injuries.

(v) An incident report on the emergency shall be reported as provided in paragraph (f)(2) of this section.

(vi) Emergency deluge showers and eyewash fountains supplied with running potable water shall be located near, within sight of, and on the same level with locations where a direct exposure of Ethyleneimine would be most likely as a result of equipment failure, or improper work practices.

(3) *Hygiene facilities and practices.* (i) Storage or consumption of food, storage or use of containers of beverages, storage or application of cosmetics, smoking, storage of smoking materials, tobacco products or other products for chewing, or the chewing of such products, are prohibited in regulated areas.

(ii) Where employees wear protective clothing and equipment clean change rooms shall be provided, in accordance with § 1910.141(e), for the number of such employees required to change clothes.

(iii) Where toilets are in regulated areas, such toilets shall be in a separate room.

(iv) Where employees are required by this section to wash, washing facilities shall be provided in accordance with § 1910.141(d) (1) and (2) (ii) through (vii).

(v) Where employees are required by this section to shower, shower facilities shall be provided in accordance with § 1910.141(d)(3).

(4) *Contamination control.* (i) Regulated areas, except for outdoor systems, shall be maintained under pressure negative with respect to nonregulated areas. Local exhaust ventilation may be used to satisfy this requirement. Clean makeup air in equal volume shall replace air removed.

(ii) Any equipment, material, or other item taken into or removed from a regulated area shall be done so in a manner that does not cause contamination in nonregulated areas or the external environment.

(iii) Decontamination procedures shall be established and implemented to remove Ethyleneimine from the surfaces of materials, equipment and the decontamination facility.

(e) *Signs, information and training*—(1) *Signs.* (i) Entrances to regulated areas shall be posted with signs bearing the legend:

CANCER-SUSPECT AGENT

AUTHORIZED PERSONNEL ONLY

(ii) Entrances to regulated areas containing operations covered in paragraph (c)(5) of this section shall be posted with signs bearing the legend:

CANCER-SUSPECT AGENT
EXPOSED IN THIS AREA

IMPERVIOUS SUIT INCLUDING GLOVES, BOOTS, AND AIR-SUPPLIED HOOD REQUIRED AT ALL TIMES

AUTHORIZED PERSONNEL ONLY

(iii) Appropriate signs and instructions shall be posted at the entrance to, and exit from, regulated areas, informing employees of the procedures that must be followed in entering and leaving a regulated area.

(2) *Container contents identification.* (i) Containers of Ethyleneimine and containers required under paragraphs (c)(4)(v) and (c)(6)(vii)(*b*), and (c)(6)(viii)(*b*) of this section which are accessible only to, and handled only by, authorized employees, or by other employees trained in accordance with subparagraph (5) of this paragraph may have contents identification limited to a generic or proprietary name, or other proprietary identification, of the carcinogen and percent.

(ii) Containers of Ethyleneimine and containers required under paragraphs (c)(4)(v), (c)(6)(vii)(*b*), and (c)(6)(viii)(*b*) of this section which are accessible to, or handled by employees other than authorized employees or employees trained in accordance with subparagraph (5) of this paragraph shall have contents identification which includes the full chemical name and Chemical Abstracts Service Registry number as listed in paragraph (a)(1) of this section.

(iii) Containers shall have the warning words "CANCER-SUSPECT AGENT" displayed immediately under or adjacent to the contents identification.

(iv) Containers which have Ethyleneimine contents with corrosive or irritating properties shall have label statements warning of such hazards, noting, if appropriate, particularly sensitive or affected portions of the body.

(3) *Lettering.* Lettering on signs and instructions required by subparagraph (1) shall be a minimum letter height of 2 inches. Labels on containers required under this section shall not be less than ½ the size of the largest lettering on the package, and not less than 8 point type in any instance: *Provided,* That no such required lettering need be more than 1 inch in height.

(4) *Prohibited statements.* No statement shall appear on or near any required sign, label, or instruction which contradicts or detracts from the effect of any required warning, information or instruction.

(5) *Training and indoctrination.* (i) Each employee prior to being authorized to enter a regulated area, shall receive a training and indoctrination

program including, but not necessarily limited to:

(*a*) The nature of the carcinogenic hazards of Ethyleneimine, including local and systemic toxicity;

(*b*) The specific nature of the operation involving Ethyleneimine which could result in exposure;

(*c*) The purpose for and application of the medical surveillance program, including, as appropriate, methods of self-examination;

(*d*) The purpose for and application of decontamination practices and purposes;

(*e*) The purpose for and significance of emergency practices and procedures;

(*f*) The employee's specific role in emergency procedures;

(*g*) Specific information to aid the employee in recognition and evaluation of conditions and situations which may result in the release of Ethyleneimine;

(*h*) The purpose for and application of specific first aid procedures and practices;

(*i*) A review of this section at the employee's first training and indoctrination program and annually thereafter.

(ii) Specific emergency procedures shall be prescribed, and posted, and employees shall be familiarized with their terms, and rehearsed in their application.

(iii) All materials relating to the program shall be provided upon request to authorized representatives of the Assistant Secretary and the Director.

(f) *Reports*—(1) *Operations.* Not later than March 1, 1974, the information required in subparagraphs (i), (ii), (iii), and (iv) of this paragraph shall be reported in writing to the nearest OSHA Area Director. Any changes in such information shall be similarly reported in writing within 15 calendar days of such change.

(i) A brief description and in-plant location of the area(s) regulated and the address of each regulated area;

(ii) The name(s) and other identifying information as to the presence of Ethyleneimine in each regulated area;

(iii) The number of employees in each regulated area, during normal operations including maintenance activities; and

(iv) The manner in which Ethyleneimine is present in each regulated area; e.g. whether it is manufactured, processed, used, repackaged, released, stored, or otherwise handled.

(2) *Incidents.* Incidents which result in the release of Ethyleneimine into any area where employees may be potentially exposed shall be reported in accordance with this subparagraph.

(i) A report of the occurrence of the incident and the facts obtainable at that time including a report on any medical treatment of affected employees shall be made within 24 hours to the nearest OSHA Area Director.

(ii) A written report shall be filed with the nearest OSHA Area Director within 15 calendar days thereafter and shall include:

(*a*) A specification of the amount of material released, the amount of time involved, and an explanation of the procedure used in determining this figure;

(*b*) A description of the area involved, and the extent of known and possible employee exposure and area contamination; and

(*c*) A report of any medical treatment of affected employees, and any medical surveillance program implemented; and

(*d*) An analysis of the circumstances of the incident, and measures taken or to be taken, with specific completion dates, to avoid further similar releases.

(g) *Medical surveillance.* At no cost to the employee, a program of medical surveillance shall be established and implemented for employees considered for assignment to enter regulated areas, and for authorized employees.

(1) *Examinations.* (i) Before an employee is assigned to enter a regulated area, a preassignment physical examination by a physician shall be provided. The examination shall include the personal history of the employee, family and occupational background, including genetic and environmental factors.

(ii) Authorized employees shall be provided periodic physical examinations, not less often than annually, following the preassignment examination.

(iii) In all physical examinations, the examining physician shall consider whether there exist conditions of increased risk, including reduced immunological competence, those undergoing treatment with steroids or cytotoxic agents, pregnancy and cigarette smoking.

(2) *Records.* (i) Employers of employees examined pursuant to this paragraph shall cause to be maintained complete and accurate records of all such medical examinations. Records shall be maintained for the duration of the employee's employment. Upon termination of the employee's employment, including retirement or death, or in the event that the employer ceases business without a successor, records, or notarized true copies thereof, shall be forwarded by registered mail to the Director.

(ii) Records required by this paragraph shall be provided upon request to authorized representatives of the Assistant Secretary or the Director; and upon request of an employee or former employee, to a physician designated by the employee or to a new employer.

(iii) Any physician who conducts a medical examination required by this paragraph shall furnish to the employer a statement of the employee's suitability for employment in the specific exposure.

§ 1910.1013 beta-Propiolactone.

(a) *Scope and application.* (1) This section applies to any area in which beta-Propiolactone, Chemical Abstracts Service Registry Number 57578 is manufactured, processed, repackaged, released, handled, or stored, but shall not apply to trans-shipment in sealed containers, except for the labeling requirements under paragraphs (e) (2), (3), and (4) of this section.

(2) This section shall not apply to solid or liquid mixtures containing less than 1.0 percent by weight or volume of beta-Propiolactone.

(b) *Definitions.* For the purposes of this section: (1) "Absolute filter" is one capable of retaining 99.97 percent of a mono disperse aerosol of 0.3 um particles.

(2) "Authorized employee" means an employee whose duties require him to be in the regulated area and who has been specifically assigned by the employer.

(3) "Clean change room" means a room where employees put on clean clothing and/or protective equipment in an environment free of beta-Propiolactone. The clean change room shall be contiguous to and have an entry from a shower room, when the shower room facilities are otherwise required in this section.

(4) "Closed system" means an operation involving beta-Propiolactone where containment prevents the release of beta-Propiolactone into regulated areas, nonregulated areas, or the external environment.

(5) "Decontamination" means the inactivation of beta-Propiolactone or its safe disposal.

(6) "Director" means the Director, National Institute for Occupational Safety and Health, or any person directed by him or the Secretary of Health, Education, and Welfare to act for the Director.

(7) "Disposal" means the safe removal of beta-Propiolactone from the work environment.

(8) "Emergency" means an unforeseen circumstance or set of circumstances resulting in the release of beta-Propiolactone which may result in exposure to or contact with beta-Propiolactone.

(9) "External environment" means any environment external to regulated and nonregulated areas.

(10) "Isolated system" means a fully enclosed structure other than the vessel of containment of beta-Propio-

lactone, which is impervious to the passage of beta-Propiolactone, and which would prevent the entry of beta-Propiolactone into regulated areas, nonregulated areas, or the external environment, should leakage or spillage from the vessel of containment occur.

(11) "Laboratory type hood" is a device enclosed on three sides and the top and bottom, designed and maintained so as to draw air inward at an average linear face velocity of 150 feet per minute with a minimum of 125 feet per minute; designed, constructed, and maintained in such a way that an operation involving beta-Propiolactone within the hood does not require the insertion of any portion of any employee's body other than his hands and arms.

(12) "Nonregulated area" means any area under the control of the employer where entry and exit is neither restricted nor controlled.

(13) "Open-vessel system" means an operation involving beta-Propiolactone in an open vessel, which is not in an isolated system, a laboratory type hood, nor in any other system affording equivalent protection against the entry of beta-Propiolactone into regulated areas, nonregulated areas, or the external environment.

(14) "Protective clothing" means clothing designed to protect an employee against contact with or exposure to beta-Propiolactone.

(15) "Regulated area" means an area where entry and exit is restricted and controlled.

(c) *Requirements for areas containing beta-Propiolactone.* A regulated area shall be established by an employer where beta-Propiolactone is manufactured, processed, used, repackaged, released, handled or stored. All such areas shall be controlled in accordance with the requirements for the following category or categories describing the operation involved:

(1) *Isolated systems.* Employees working with beta-Propiolactone within an isolated system, such as a "glove box" shall wash their hands and arms upon completion of the assigned task and before engaging in other activities not associated with the isolated system.

(2) *Closed system operation.* Within regulated areas where beta-Propiolactone is stored in sealed containers, or contained in a closed system, including piping systems, with any sample ports or openings closed while beta-Propiolactone is contained within. Access shall be restricted to authorized employees only.

(3) *Open vessel system operations.* Open vessel system operations as defined in paragraph (b)(13) of this section are prohibited.

(4) *Transfer from a closed system, charging or discharging point operations, or otherwise opening a closed system.* In operations involving "laboratory type hoods," or in locations where beta-Propiolactone is contained in an otherwise "closed system," but is transferred, charged, or discharged into other normally closed containers, the provisions of this subparagraph shall apply.

(i) Access shall be restricted to authorized employees only;

(ii) Each operation shall be provided with continuous local exhaust ventilation so that air movement is always from ordinary work areas to the operation. Exhaust air shall not be discharged to regulated areas, nonregulated areas or the external environment unless decontaminated. Clean makeup air shall be introduced in sufficient volume to maintain the correct operation of the local exhaust system.

(iii) Employees shall be provided with, and required to wear, clean, full body protective clothing (smocks, coveralls, or long-sleeved shirt and pants), shoe covers and gloves prior to entering the regulated area.

(iv) Employees engaged in beta-Propiolactone handling operations shall be provided with and required to wear and use a full-face, supplied air respirator, of the continuous flow or pressure-demand type, in accordance with § 1910.134.

(v) Prior to each exit from a regulated area, employees shall be required to remove and leave protective clothing and equipment at the point of exit and at the last exit of the day, to place used clothing and equipment in impervious containers at the point of exit for purposes of decontamination or disposal. The contents of such impervious containers shall be identified, as required under paragraphs (e) (2), (3), and (4) of this section.

(vi) Drinking fountains are prohibited in the regulated area.

(5) *Maintenance and decontamination activities.* In cleanup of leaks or spills, maintenance or repair operations on contaminated systems or equipment, where direct contact with beta-Propiolactone could result, each authorized employee entering that area shall:

(i) Be provided with and required to wear clean, impervious garments, including gloves, boots and continuous-air supplied hood in accordance with § 1910.134.

(ii) Be decontaminated before removing the protective garments and hood;

(iii) Be required to shower upon removing the protective garments and hood.

(6) *Laboratory activities.* [Deleted]

(d) *General regulated area requirements*—(1) *Employee identification.* A daily roster of employees entering regulated areas shall be established and maintained. The rosters or a summary of the rosters shall be retained for a period of 20 years. The rosters and/or summaries shall be provided upon request to authorized representatives of the Assistant Secretary and the Director. In the event that the employer ceases business without a successor, rosters shall be forwarded by registered mail to the Director.

(2) *Emergencies.* In an emergency, immediate measures including, but not limited to, the requirements of subdivisions (i), (ii), (iii), (iv), and (v) of this section shall be implemented.

(i) The potentially affected area shall be evacuated as soon as the emergency has been determined.

(ii) Hazardous conditions created by the emergency shall be eliminated and the potentially affected area shall be decontaminated prior to the resumption of normal operations.

(iii) Special medical surveillance by a physician shall be instituted within 24 hours for employees present in the potentially affected area at the time of the emergency. A report of the medical surveillance and any treatment shall be included in the incident report, in accordance with paragraph (f)(2) of this section.

(iv) Where an employee has a known contact with beta-Propiolactone, such employee shall be required to shower as soon as possible, unless contraindicated by physical injuries.

(v) An incident report on the emergency shall be reported as provided in paragraph (f)(2) of this section.

(vi) Emergency deluge showers and eyewash fountains supplied with running potable water shall be located near, within sight of, and on the same level with locations where a direct exposure to beta-Propiolactone would be most likely as a result of equipment failure, or improper work practice.

(3) *Hygiene facilities and practices.* (i) Storage or consumption of food, storage or use of containers of beverages, storage or application of cosmetics, smoking, storage of smoking materials, tobacco products or other products for chewing, or the chewing of such products, are prohibited in regulated areas.

(ii) Where employees wear protective clothing and equipment clean change rooms shall be provided, in accordance with § 1910.141(e), for the number of such employees required to change clothes.

(iii) Where toilets are in regulated areas, such toilets shall be in a separate room.

(iv) Where employees are required by this section to wash, washing facilities shall be provided in accordance with § 1910.141(d)(1) and (2) (ii) through (vii).

(v) Where employees are required by this section to shower, shower facilities shall be provided in accordance with § 1910.141(d)(3).

(4) *Contamination control.* (i) Regulated areas, except for outdoor systems, shall be maintained under pressure negative with respect to nonregulated areas. Local exhaust ventilation may be used to satisfy this requirement. Clean makeup air in equal volume shall replace air removed.

(ii) Any equipment, material, or other item taken into or removed from a regulated area shall be done so in a manner that does not cause contamination in nonregulated areas or the external environment.

(iii) Decontamination procedures shall be established and implemented to remove beta-Propiolactone from the surfaces of materials, equipment and the decontamination facility.

(e) *Signs, information and training*—(1) *Signs.* (i) Entrances to regulated areas shall be posted with signs bearing the legend:

CANCER-SUSPECT AGENT

AUTHORIZED PERSONNEL ONLY

(ii) Entrances to regulated areas containing operations covered in paragraph (c)(5) of this section shall be posted with signs bearing the legend:

CANCER-SUSPECT AGENT
EXPOSED IN THIS AREA

IMPERVIOUS SUIT INCLUDING GLOVES, BOOTS, AND AIR-SUPPLIED HOOD REQUIRED AT ALL TIMES

AUTHORIZED PERSONNEL ONLY

(iii) Appropriate signs and instructions shall be posted at the entrance to, and exit from, regulated areas, informing employees of the procedures that must be followed in entering and leaving a regulated area.

(2) *Container contents identification.* (i) Containers of beta-Propiolactone and containers required under paragraphs (c)(4)(v) and (c)(6)(vii)(*b*), and (c)(6)(viii)(*b*) of this section which are accessible only to, and handled only by, authorized employees, or by other employees trained in accordance with subparagraph (5) of this paragraph, may have contents identification limited to a generic or proprietary name, or other proprietary identification, of the carcinogen and percent.

(ii) Containers of beta-Propiolactone and containers required under paragraphs (c)(4)(v), (c)(6)(vii)(*b*), and (c)(6)(viii)(*b*) of this section which are accessible to, or handled by, employees other than authorized employees or employees trained in accordance with subparagraph (5) of this paragraph shall have contents identification which includes the full chemical name and Chemical Abstracts Service Registry number as listed in paragraph (a)(1) of this section.

(iii) Containers shall have the warning words "CANCER-SUSPECT AGENT" displayed immediately under or adjacent to the contents identification.

(iv) Containers which have beta-Propiolactone contents with corrosive or irritating properties shall have label statements warning of such hazards, noting, if appropriate, particularly sensitive or affected portions of the body.

(3) *Lettering.* Lettering on signs and instructions required by subparagraph (1) shall be a minimum letter height of 2 inches. Labels on containers required under this section shall not be less than ½ the size of the largest lettering on the package, and not less than 8 point type in any instance: *Provided,* that no such required lettering need be more than 1 inch in height.

(4) *Prohibited statements.* No statement shall appear on or near any required sign, label, or instruction which contradicts or detracts from the effect of any required warning, information or instruction.

(5) *Training and indoctrination.* (i) Each employee prior to being authorized to enter a regulated area, shall receive a training and indoctrination program including, but not necessarily limited to:

(*a*) The nature of the carcinogenic hazards of beta-Propiolactone, including local and systemic toxicity;

(*b*) The specific nature of the operation involving beta-Propiolactone which could result in exposure;

(*c*) The purpose for and application of the medical surveillance program, including, as appropriate, methods of self-examination;

(*d*) The purpose for and application of decontamination practices and purposes;

(*e*) The purpose for and significance of emergency practices and procedures;

(*f*) The employee's specific role in emergency procedures;

(*g*) Specific information to aid the employee in recognition and evaluation of conditions and situations which may result in the release of beta-Propiolactone;

(*h*) The purpose for and application of specific first aid procedures and practices;

(*i*) A review of this section at the employee's first training and indoctrination program and annually thereafter.

(ii) Specific emergency procedures shall be prescribed, and posted, and employees shall be familiarized with their terms, and rehearsed in their application.

(iii) All materials relating to the program shall be provided upon request to authorized representatives of the Assistant Secretary and the Director.

(f) *Reports*—(1) *Operations.* Not later than March 1, 1974, the information required in subparagraphs (i), (ii), (iii), and (iv) of this paragraph shall be reported in writing to the nearest OSHA Area Director. Any changes in such information shall be similarly reported in writing within 15 calendar days of such change. (i) A brief description and in-plant location of the area(s) regulated and the address of each regulated area;

(ii) The name(s) and other identifying information as to the presence of beta-Propiolactone in each regulated area;

(iii) The number of employees in each regulated area, during normal operations including maintenance activities; and

(iv) The manner in which beta-Propiolactone is present in each regulated area; e.g. whether it is manufactured, processed, used, repackaged, released, stored, or otherwise handled.

(2) *Incidents.* Incidents which result in the release of beta-Propiolactone into any area where employees may be potentially exposed shall be reported in accordance with this subparagraph. (i) A report of the occurrence of the incident and the facts obtainable at that time including a report on any medical treatment of affected employees shall be made within 24 hours to the nearest OSHA Area Director.

(ii) A written report shall be filed with the nearest OSHA Area Director within 15 calendar days thereafter and shall include:

(*a*) A specification of the amount of material released, the amount of time involved, and an explanation of the procedure used in determining this figure;

(*b*) A description of the area involved, and the extent of known and possible employee exposure and area contamination; and

(*c*) A report of any medical treatment of affected employees, and any medical surveillance program implemented; and

(*d*) An analysis of the circumstances of the incident, and measures taken or to be taken, with specific completion dates, to avoid further similar releases.

(g) *Medical surveillance.* At no cost to the employee, a program of medical surveillance shall be established and implemented for employees considered for assignment to enter regulated areas, and for authorized employees.

(1) *Examinations.* (i) Before an employee is assigned to enter a regulated area, a preassignment physical examination by a physician shall be provided. The examination shall include the personal history of the employee,

family and occupational background, including genetic and environmental factors.

(ii) Authorized employees shall be provided periodic physical examinations, not less often than annually, following the preassignment examination.

(iii) In all physical examinations, the examining physician shall consider whether there exist conditions of increased risk, including reduced immunological competence, those undergoing treatment with steroids or cytotoxic agent, pregnancy and cigarette smoking.

(2) *Records.* (i) Employers of employees examined pursuant to this paragraph shall cause to be maintained complete and accurate records of all such medical examinations. Records shall be maintained for the duration of the employee's employment. Upon termination of the employee's employment, including retirement or death, or in the event that the employer ceases business without a successor, records, or notarized true copies thereof, shall be forwarded by registered mail to the Director.

(ii) Records required by this paragraph shall be provided upon request to authorized representatives of the Assistant Secretary or the Director; and upon request of an employee or former employee, to a physician designated by the employee or to a new employer.

(iii) Any physician who conducts a medical examination required by this paragraph shall furnish to the employer a statement of the employee's suitability for employment in the specific exposure.

§ 1910.1014 2-Acetylaminofluorene.

(a) *Scope and application.* (1) This section applies to any area in which 2-Acetylaminofluorene, Chemical Abstracts Service Registry Number 53963 is manufactured, processed, repackaged, released, handled, or stored, but shall not apply to trans-shipment in sealed containers, except for the labeling requirements under paragraphs (e)(2), (3), and (4) of this section.

(2) This section shall not apply to solid or liquid mixtures containing less than 1.0 percent by weight or volume of 2-Acetylaminofluorene.

(b) *Definitions.* For the purposes of this section: (1) "Absolute filter" is one capable of retaining 99.97 percent of a mono disperse aerosol of 0.3 μm particles.

(2) "Authorized employee" means an employee whose duties require him to be in the regulated area and who has been specifically assigned by the employer.

(3) "Clean change room" means a room where employees put on clean clothing and/or protective equipment in an environment free of 2-Acetylaminofluorene. The clean change room shall be contiguous to and have an entry from a shower room, when the shower room facilities are otherwise required in this section.

(4) "Closed system" means an operation involving 2-Acetylaminofluorene where containment prevents the release of 2-Acetylaminofluorene into regulated areas, nonregulated areas, or the external environment.

(5) "Decontamination" means the inactivation of 2-Acetylaminofluorene or its safe disposal.

(6) "Director" means the Director, National Institute for Occupational Safety and Health, or any person directed by him or the Secretary of Health, Education, and Welfare to act for the Director.

(7) "Disposal" means the safe removal of 2-Acetylaminofluorene from the work environment.

(8) "Emergency" means an unforeseen circumstance or set of circumstances resulting in the release of 2-Acetylaminofluorene which may result in exposure to or contact with 2-Acetylaminofluorene.

(9) "External environment" means any environment external to regulated and nonregulated areas.

(10) "Isolated system" means a fully enclosed structure other than the vessel of containment of 2-Acetylaminofluorene, which is impervious to the passage of 2-Acetylaminofluorene, and which would prevent the entry of 2-Acetylaminofluorene into regulated areas, nonregulated areas, or the external environment, should leakage or spillage from the vessel of containment occur.

(11) "Laboratory type hood" is a device enclosed on three sides and the top and bottom, designed and maintained so as to draw air inward at an average linear face velocity of 150 feet per minute with a minimum of 125 feet per minute; designed, constructed, and maintained in such a way that an operation involving 2-Acetylaminoflourene within the hood does not require the insertion of any portion of any employee's body other than his hands and arms.

(12) "Nonregulated area" means any area under the control of the employer where entry and exit is neither restricted nor controlled.

(13) "Open-vessel system" means an operation involving 2-Acetylaminofluorene in an open vessel, which is not in an isolated system, a laboratory type hood, nor in any other system affording equivalent protection against the entry of 2-Acetylaminofluorene into regulated areas, nonregulated areas, or the external environment.

(14) "Protective clothing" means clothing designed to protect an employee against contact with or exposure to 2-Acetylaminofluorene.

(15) "Regulated area" means an area where entry and exit is restricted and controlled.

(c) *Requirements for areas containing 2-Acetylaminofluorene.* A regulated area shall be established by an employer where 2-Acetylaminofluorene is manufactured, processed, used, repackaged, released, handled or stored. All such areas shall be controlled in accordance with the requirements for the following category or categories describing the operation involved: (1) *Isolated systems.* Employees working with 2-Acetylaminofluorene within an isolated system, such as a "glove box" shall wash their hands and arms upon completion of the assigned task and before engaging in other activities not associated with the isolated system.

(2) *Closed system operation.* Within regulated areas where 2-Acetylaminofluorene is stored in sealed containers, or contained in a closed system, including piping systems, with any sample ports or openings closed while 2-Acetylaminofluorene is contained within:

(i) Access shall be restricted to authorized employees only;

(ii) Employees shall be required to wash hands, forearms, face and neck upon each exit from the regulated areas, close to the point of exit and before engaging in other activities.

(3) *Open vessel system operations.* Open vessel system operations as defined in paragraph (b)(13) of this section are prohibited.

(4) *Transfer from a closed system, charging or discharging point operations, or otherwise opening a closed system.* In operations involving "laboratory type hoods," or in locations where 2-Acetylaminofluorene is contained in an otherwise "closed system," but is transferred, charged, or discharged into other normally closed containers, the provisions of this subparagraph shall apply.

(i) Access shall be restricted to authorized employees only;

(ii) Each operation shall be provided with continuous local exhaust ventilation so that air movement is always from ordinary work areas to the operation. Exhaust air shall not be discharged to regulated areas, nonregulated areas or the external environment unless decontaminated. Clean makeup air shall be introduced in sufficient volume to maintain the correct operation of the local exhaust system.

(iii) Employees shall be provided with, and required to wear, clean, full body protective clothing (smocks, coveralls, or long-sleeved shirt and pants), shoe covers and gloves prior to entering the regulated area.

(iv) Employees engaged in 2-Acetylaminofluorene handling operations shall be provided with and required to wear and use a half-face, filter-type respirator for dusts, mists, and fumes, in accordance with § 1910.134. A respirator affording higher levels of protection may be substituted.

(v) Prior to each exit from a regulated area, employees shall be required to remove and leave protective clothing and equipment at the point of exit and at the last exit of the day, to place used clothing and equipment in impervious containers at the point of exit for purposes of decontamination or disposal. The contents of such impervious containers shall be identified, as required under paragraphs (e)(2), (3), and (4) of this section.

(vi) Employees shall be required to wash hands, forearms, face and neck on each exit from the regulated area, close to the point of exit, and before engaging in other activities.

(vii) Employees shall be required to shower after the last exit of the day.

(viii) Drinking fountains are prohibited in the regulated area.

(5) *Maintenance and decontamination activities.* In cleanup of leaks or spills, maintenance or repair operations on contaminated systems or equipment, where direct contact with 2-Acetylaminofluorene could result, each authorized employee entering that area shall:

(i) Be provided with and required to wear clean, impervious garments, including gloves, boots and continuous-air supplied hood in accordance with § 1910.134.

(ii) Be decontaminated before removing the protective garments and hood;

(iii) Be required to shower upon removing the protective garments and hood.

(6) *Laboratory activities*—[deleted]

(d) *General regulated area requirements*—(1) *Employee identification.* A daily roster of employees entering regulated areas shall be established and maintained. The rosters or a summary of the rosters shall be retained for a period of 20 years. The rosters and/or summaries shall be provided upon request to authorized representatives of the Assistant Secretary and the Director. In the event that the employer ceases business without a successor, rosters shall be forwarded by registered mail to the Director.

(2) *Emergencies.* In an emergency, immediate measures including, but not limited to, the requirements of subdivisions (i), (ii), (iii), (iv), and (v) of this paragraph shall be implemented.

(i) The potentially affected area shall be evacuated as soon as the emergency has been determined.

(ii) Hazardous conditions created by the emergency shall be eliminated and the potentially affected area shall be decontaminated prior to the resumption of normal operations.

(iii) Special medical surveillance by a physician shall be instituted within 24 hours for employees present in the potentially affected area at the time of the emergency. A report of the medical surveillance and any treatment shall be included in the incident report, in accordance with paragraph (f)(2) of this section.

(iv) Where an employee has a known contact with 2-Acetylaminofluorene, such employee shall be required to shower as soon as possible, unless contraindicated by physical injuries.

(v) An incident report on the emergency shall be reported as provided in paragraph (f)(2) of this section.

(3) *Hygiene facilities and practices.* (i) Storage or consumption of food, storage or use of containers of beverages, storage or application of cosmetics, smoking, storage of smoking materials, tobacco products or other products for chewing, or the chewing of such products, are prohibited in regulated areas.

(ii) Where employees are required by this section to wash, washing facilities shall be provided in accordance with § 1910.141(d)(1) and (2)(ii) through (vii).

(iii) Where employees are required by this section to shower, shower facilities shall be provided in accordance with § 1910.141(d)(3).

(iv) Where employees wear protective clothing and equipment clean change rooms shall be provided, in accordance with § 1910.141(e), for the number of such employees required to change clothes.

(v) Where toilets are in regulated areas, such toilets shall be in a separate room.

(4) *Contamination control.* (i) Regulated areas, except for outdoor systems, shall be maintained under pressure negative with respect to nonregulated areas. Local exhaust ventilation may be used to satisfy this requirement. Clean makeup air in equal volume shall replace air removed.

(ii) Any equipment, materials, or other item taken into or removed from a regulated area shall be done so in a manner that does not cause contamination in nonregulated areas or the external environment.

(iii) Decontamination procedures shall be established and implemented to remove 2-Acetylaminofluorene from the surfaces of materials, equipment and the decontamination facility.

(iv) Dry sweeping and dry mopping are prohibited.

(e) *Signs, information and training*—(1) *Signs.* (i) Entrances to regulated areas shall be posted with signs bearing the legend:

CANCER-SUSPECT AGENT

AUTHORIZED PERSONNEL ONLY

(ii) Entrances to regulated areas containing operations covered in paragraph (c)(5) of this section shall be posted with signs bearing the legend:

CANCER-SUSPECT AGENT
EXPOSED IN THIS AREA

IMPERVIOUS SUIT INCLUDING GLOVES, BOOTS, AND AIR-SUPPLIED HOOD REQUIRED AT ALL TIMES

AUTHORIZED PERSONNEL ONLY

(iii) Appropriate signs and instructions shall be posted at the entrance to, and exit from, regulated areas, informing employees of the procedures that must be followed in entering and leaving a regulated area.

(2) *Container contents identification.* (i) Containers of 2-Acetylaminofluorene and containers required under paragraphs (c)(4)(v) and (c)(6)(vii)(*b*), and (c)(6)(viii)(*b*) of this section which are accessible only to, and handled only by, authorized employees, or by other employees trained in accordance with subparagraph (5) of this paragraph, may have contents identification, limited to a generic or proprietary name, or other proprietary identification, of the carcinogen and percent.

(ii) Containers of 2-Acetylaminofluorene and containers required under paragraphs (c)(4)(v), (c)(6)(vii)(*b*), and (c)(6)(viii)(*b*) of this section which are accessible to, or handled by, employees other than authorized employees or employees trained in accordance with subparagraph (5) of this paragraph shall have contents identification which includes the full chemical name and Chemical Abstracts Service Registry number as listed in paragraph (a)(1) of this section.

(iii) Containers shall have the warning words "CANCER-SUSPECT AGENT" displayed immediately under or adjacent to the contents identification.

(iv) Containers which have 2-Acetylaminofluorene contents with corrosive or irritating properties shall have label statements warning of such hazards, noting, if appropriate, particularly sensitive or affected portions of the body.

(3) *Lettering.* Lettering on signs and instructions required by subparagraph (1) shall be a minimum letter height of 2 inches. Labels on containers required under this section shall not be less than ½ the size of the largest lettering on the package, and not less than 8 point type in any instance; *Provided,* That no such required lettering need be more than 1 inch in height.

(4) *Prohibited statements.* No statement shall appear on or near any required sign, label, or instruction which contradicts or detracts from the effect of any required warning, information or instruction.

(5) *Training and indoctrination.* (i) Each employee prior to being authorized to enter a regulated area, shall receive a training and indoctrination program including, but not necessarily limited to:

(*a*) The nature of the carcinogenic hazards of 2-Acetylaminofluorene, including local and systemic toxicity;

(*b*) The specific nature of the operation involving 2-Acetylaminofluorene which could result in exposure;

(*c*) The purpose for and application of the medical surveillance program, including, as appropriate, methods of self-examination;

(*d*) The purpose for and application of decontamination practices and purposes;

(*e*) The purpose for and significance of emergency practices and procedures;

(*f*) The employee's specific role in emergency procedures;

(*g*) Specific information to aid the employee in recognition and evaluation of conditions and situations which may result in the release of 2-Acetylaminofluorene;

(*h*) The purpose for and application of specific first aid procedures and practices;

(*i*) A review of this section at the employee's first training and indoctrination program and annually thereafter.

(ii) Specific emergency procedures shall be prescribed, and posted, and employees, shall be familiarized with their terms, and rehearsed in their application.

(iii) All materials relating to the program shall be provided upon request to authorized representatives of the Assistant Secretary and the Director.

(f) *Reports*—(1) *Operations.* Not later than March 1, 1974, the information required in paragraphs (f)(1) (i), (ii), (iii), and (iv) of this section shall be reported in writing to the nearest OSHA Area Director. Any changes in such information shall be similarly reported in writing within 15 calendar days of such change. (i) A brief description and in-plant location of the area(s) regulated and the address of each regulated area;

(ii) The name(s) and other identifying information as to the presence of 2-Acetylaminofluorene in each regulated area;

(iii) The number of employees in each regulated area, during normal operations including maintenance activities; and

(iv) The manner in which 2-Acetylaminofluorene is present in each regulated area; e.g. whether it is manufactured, processed, used, repackaged, released, stored, or otherwise handled.

(2) *Incidents.* Incidents which result in the release of 2-Acetylaminofluorene into any area where employees may be potentially exposed shall be reported in accordance with this subparagraph. (i) A report of the occurrence of the incident and the facts obtainable at that time including a report on any medical treatment of affected employees shall be made within 24 hours to the nearest OSHA Area Director.

(ii) A written report shall be filed with the nearest OSHA Area Director within 15 calendar days thereafter and shall include:

(*a*) A specification of the amount of material released, the amount of time involved, and an explanation of the procedure used in determining this figure;

(*b*) A description of the area involved, and the extent of known and possible employee exposure and area contamination; and

(*c*) A report of any medical treatment of affected employees, and any medical surveillance program implemented; and

(*d*) An analysis of the circumstances of the incident, and measures taken or to be taken, with specific completion dates, to avoid further similar releases.

(g) *Medical surveillance.* At no cost to the employee, a program of medical surveillance shall be established and implemented for employees considered for assignment to enter regulated areas, and for authorized employees.

(1) *Examinations.* (i) Before an employee is assigned to enter a regulated area, a preassignment physical examination by a physician shall be provided. The examination shall include the personal history of the employee, family and occupational background, including genetic and environmental factors.

(ii) Authorized employees shall be provided periodic physical examinations, not less often than annually, following the preassignment examination.

(iii) In all physical examinations, the examining physician shall consider whether there exist conditions of increased risk, including reduced immunological competence, those undergoing treatment with steroids or cytotoxic agents, pregnancy and cigarette smoking.

(2) *Records.* (i) Employers of employees examined pursuant to this paragraph shall cause to be maintained complete and accurate records of all such medical examinations. Records shall be maintained for the duration of the employee's employment. Upon termination of the employee's employment, including retirement or death, or in the event that the employer ceases business without a successor, records, or notarized true copies thereof, shall be forwarded by registered mail to the Director.

(ii) Records required by this paragraph shall be provided upon request to authorized representatives of the Assistant Secretary or the Director; and upon request of an employee or former employee, to a physician designated by the employee or to a new employer.

(iii) Any physician who conducts a medical examination required by this paragraph shall furnish to the employer a statement of the employee's suitability for employment in the specific exposure.

§ 1910.1015 4-Dimethylaminoazobenzene.

(a) *Scope and application.* (1) This section applies to any area in which 4-Dimethylaminoazobenzene, Chemical Abstracts Service Registry Number 60117 is manufactured, processed, repackaged, released, handled, or stored, but shall not apply to trans-shipment in sealed containers, except for the labeling requirements under paragraphs (e) (2), (3), and (4) of this section.

(2) This section shall not apply to solid or liquid mixtures containing less than 1.0 percent by weight or volume of 4-Dimethylaminoazobenzene.

(b) *Definitions.* For the purposes of this section: (1) "Absolute filter" is one capable of retaining 99.97 percent of a mono disperse aerosol of 0.3 μm particles.

(2) "Authorized employee" means an employee whose duties require him to be in the regulated area and who has been specifically assigned by the employer.

(3) "Clean change room" means a room where employees put on clean clothing and/or protective equipment in an environment free of 4-Dimethylaminoazobenzene. The clean change room shall be contiguous to and have an entry from a shower room, when the shower room facilities are otherwise required in this section.

(4) "Closed system" means an operation involving 4-Dimethylaminoazobenzene where containment prevents the release of 4-Dimethylaminoazobenzene into regulated areas, nonregulated areas, or the external environment.

(5) "Decontamination" means the inactivation of 4-Dimethylaminoazobenzene or its safe disposal.

(6) "Director" means the Director, National Institute for Occupational Safety and Health, or any person directed by him or the Secretary of Health, Education, and Welfare to act for the Director.

(7) "Disposal" means the safe removal of 4-Dimethylaminoazobenzene from the work environment.

(8) "Emergency" means an unforeseen circumstance or set of circumstances resulting in the release of 4-Dimethylaminoazobenzene which may result in exposure to or contact with 4-Dimethylaminoazobenzene.

(9) "External environment" means any environment external to regulated and nonregulated areas.

(10) "Isolated system" means a fully enclosed structure other than the vessel of containment of 4-Dimethylaminoazobenzene, which is impervious to the passage of 4-Dimethylaminoazobenzene which would prevent the entry of 4-Dimethylaminoazobenzene into regulated areas, nonregulated areas, or the external environment, should leakage or spillage from the vessel of containment occur.

(11) "Laboratory type hood" is a device enclosed on three sides and the top and bottom, designed and maintained so as to draw air inward at an average linear face velocity of 150 feet per minute with a minimum of 125 feet per minute; designed, constructed, and maintained in such a way that an operation involving 4-Dimethylaminoazobenzene within the hood does not require the insertion of any portion of any employee's body other than his hands and arms.

(12) "Nonregulated area" means any area under the control of the employer where entry and exit is neither restricted nor controlled.

(13) "Open-vessel system" means an operation involving 4-Dimethylaminoazobenzene in an open vessel, which is not in an isolated system, a laboratory type hood, nor in any other system affording equivalent protection against the entry of 4-Dimethylaminoazobenzene into regulated areas, nonregulated areas, or the external environment.

(14) "Protective clothing" means clothing designed to protect an employee against contact with or exposure to 4-Dimethylaminoazobenzene.

(15) "Regulated area" means an area where entry and exit is restricted and controlled.

(c) *Requirements for areas containing 4-Dimethylaminoazobenzene.* A regulated area shall be established by an employer where 4-Dimethylaminoazobenzene is manufactured, processed, used, repackaged, released, handled or stored. All such areas shall be controlled in accordance with the requirements for the following category or categories describing the operation involved: (1) *Isolated systems.* Employees working with 4-Dimethylaminoazobenzene within an isolated system, such as a "glove box" shall wash their hands and arms upon completion of the assigned task and before engaging in other activities not associated with the isolated system.

(2) *Closed system operation.* Within regulated areas where 4-Dimethylaminoazobenzene is stored in sealed containers, or contained in a closed system, including piping systems, with any sample ports or openings closed while 4-Dimethylaminoazobenzene is contained within: (i) Access shall be restricted to authorized employees only;

(ii) Employees shall be required to wash hands, forearms, face and neck upon each exit from the regulated areas, close to the point of exit and before engaging in other activities.

(3) *Open vessel system operations.* Open vessel system operations as defined in paragraph (b)(13) of this section are prohibited.

(4) *Transfer from a closed system, charging or discharging point operations, or otherwise opening a closed system.* In operations involving "laboratory type hoods," or in locations where 4-Dimethylaminoazobenzene is contained in an otherwise "closed system," but is transferred, charged, or discharged into other normally closed containers, the provisions of this subparagraph shall apply.

(i) Access shall be restricted to authorized employees only;

(ii) Each operation shall be provided with continuous local exhaust ventilation so that air movement is always from ordinary work areas to the operation. Exhaust air shall not be discharged to regulated areas, nonregulated areas or the external environment unless decontaminated. Clean makeup air shall be introduced in sufficient volume to maintain the correct operation of the local exhaust system.

(iii) Employees shall be provided with, and required to wear, clean, full body protective clothing (smocks, coveralls, or long-sleeved shirt and pants), shoe covers, and gloves prior to entering the regulated area.

(iv) Employees engaged in 4-Dimethylaminoazobenzene handling operations shall be provided with and required to wear and use a half-face, filter-type respirator for dusts, mists, and fumes, in accordance with § 1910.134. A respirator affording higher levels of protection may be substituted.

(v) Prior to each exit from a regulated area, employees shall be required to remove and leave protective clothing and equipment at the point of exit and at the last exit of the day, to place used clothing and equipment in impervious containers at the point of exit for purposes of decontamination or disposal. The contents of such impervious containers shall be identified, as required under paragraphs (e) (2), (3), and (4) of this section.

(vi) Employees shall be required to wash hands, forearms, face and neck on each exit from the regulated area, close to the point of exit, and before engaging in other activities.

(vii) Employees shall be required to shower after the last exist of the day.

(viii) Drinking fountains are prohibited in the regulated area.

(5) *Maintenance and decontamination activities.* In cleanup of leaks or spills, maintenance or repair operations on contaminated systems or equipment, where direct contact with 4-Dimethylaminoazobenzene could result, each authorized employee entering that area shall: (i) Be provided with and required to wear clean, impervious garments, including gloves, boots and continuous-air supplied hood in accordance with § 1910.134.

(ii) Be decontaminated before removing the protective garments and hood;

(iii) Be required to shower upon removing the protective garments and hood.

(6) *Laboratory activities.* [Deleted]

(d) *General regulated area requirements*—(1) *Employee identification.* A daily roster of employees entering regulated areas shall be established and maintained. The rosters or a summary of the rosters, shall be retained for a period of 20 years. The rosters and/or summaries shall be provided upon request to authorized representatives of the Assistant Secretary and the Director. In the event that the employer ceases business without a successor, rosters shall be forwarded by registered mail to the Director.

(2) *Emergencies.* In an emergency, immediate measures including, but not limited to, the requirements of subdivisions (i), (ii), (iii), (iv), and (v) of this paragraph shall be implemented.

(i) The potentially affected area shall be evacuated as soon as the emergency has been determined.

(ii) Hazardous conditions created by the emergency shall be eliminated and the potentially affected area shall be decontaminated prior to the resumption of normal operations.

(iii) Special medical surveillance by a physician shall be instituted within 24 hours for employees present in the potentially affected area at the time of the emergency. A report of the medical surveillance and any treatment shall be included in the incident report, in accordance with paragraph (f)(2) of this section.

(iv) Where an employee has a known contact with 4-Dimethylamino- azobenzene, such employee shall be required to shower as soon as possible, unless contraindicated by physical injuries.

(v) An incident report on the emergency shall be reported as provided in paragraph (f)(2) of this section.

(3) *Hygiene facilities and practices.* (i) Storage or consumption of food, storage or use of containers of beverages, storage or application of cosmetics, smoking, storage of smoking materials, tobacco products or other products for chewing, or the chewing of such products, are prohibited in regulated areas.

(ii) Where employees are required by this section to wash, washing facilities shall be provided in accordance with § 1910.141(d)(1) and (2)(ii) through (vii).

(iii) Where employees are required by this section to shower, shower facilities shall be provided in accordance with § 1910.141(d)(3).

(iv) Where employees wear protective clothing and equipment clean change room shall be provided, in accordance with § 1910.141(e), for the number of such employees required to change clothes.

(v) Where toilets are in regulated areas, such toilets shall be in a separate room.

(4) *Contamination control.* (i) Regulated areas, except for outdoor systems, shall be maintained under pressure negative with respect to nonregulated areas. Local exhaust ventilation may be used to satisfy this requirement. Clean makeup air in equal volume shall replace air removed.

(ii) Any equipment, material, or other item taken into or removed from a regulated area shall be done so in a manner that does not cause contamination in nonregulated areas or the external environment.

(iii) Decontamination procedures shall be established and implemented to remove 4-Dimethylaminoazobenzene from the surfaces of materials, equipment and the decontamination facility.

(iv) Dry sweeping and dry mopping are prohibited.

(e) *Signs, information and training*—(1) *Signs.* (i) Entrances to regulated areas shall be posted with signs bearing the legend:

CANCER-SUSPECT AGENT

AUTHORIZED PERSONNEL ONLY

(ii) Entrances to regulated areas containing operations covered in paragraph (c)(5) of this section shall be posted with signs bearing the legend:

CANCER-SUSPECT AGENT
EXPOSED IN THIS AREA

IMPERVIOUS SUIT INCLUDING GLOVES, BOOTS, AND AIR-SUPPLIED HOOD REQUIRED AT ALL TIMES

AUTHORIZED PERSONNEL ONLY

(iii) Appropriate signs and instructions shall be posted at the entrance to, and exit from, regulated areas, informing employees of the procedures that must be followed in entering and leaving a regulated area.

(2) *Container contents identification.* (i) Containers of 4-Dimethylaminoazobenzene and containers required under paragraphs (c)(4)(v) and (c)(6)(vii)(*b*), and (c)(6)(viii)(*b*) of this section which are accessible only to, and handled only by, authorized employees, or by other employees trained in accordance with subparagraph (5) of this paragraph, may have contents identification limited to a generic or proprietary name, or other proprietary identification, of the carcinogen and percent.

(ii) Containers of 4-Dimethylaminoazobenzene and containers required under paragraphs (c)(4)(v), (c)(6)(vii)(*b*), and (c)(6)(viii)(*b*) of this section which are accessible to, or handled by employees other than authorized employees or employees trained in accordance with subparagraph (5) of this paragraph shall have contents identification which includes the full chemical name and Chemical Abstracts Service Registry number as listed in paragraph (a)(1) of this section.

(iii) Containers shall have the warning words "CANCER-SUSPECT AGENT" displayed immediately under or adjacent to the contents identification.

(iv) Containers which have 4-Dimethylaminoazobenzene contents with corrosive or irritating properties shall have label statements warning of such hazards, noting, if appropriate, particularly sensitive or affected portions of the body.

(3) *Lettering.* Lettering on signs and instructions required by subparagraph (1) of this paragraph shall be a minimum letter height of 2 inches. Labels on containers required under this section shall not be less than ½ the size of the largest lettering on the package, and not less than 8 point type in any instance; provided that no such required lettering need be more than 1 inch in height.

(4) *Prohibited statements.* No statement shall appear on or near any required sign, label, or instruction which contradicts or detracts from the effect of any required warning, information or instruction.

(5) *Training and indoctrination.* (i) Each employee prior to being authorized to enter a regulated area, shall receive a training and indoctrination program including, but not necessarily limited to:

(*a*) The nature of the carcinoginic hazards of 4-Dimethylamino-azobenzene, including local and sytemic toxicity;

(*b*) The specific nature of the operation involving 4-Dimethylaminoazobenzene which could result in exposure;

(*c*) The purpose for the application of the medical surveillance program, including, as appropriate, methods of self-examination;

(*d*) The purpose for and application of decontamination practices and purposes;

(*e*) The purpose for and significance of emergency practices and procedures;

(*f*) The employee's specific role in emergency procedures;

(*g*) Specific information to aid the employee in recognition and evaluation of conditions and situations which may result in the release of 4-Dimethylaminoazobenzene;

(*h*) The purpose for and application of specific first aid procedures and practices;

(*i*) A review of this section at the employee's first training and indoctrination program and annually thereafter.

(ii) Specific emergency procedures shall be prescribed, and posted, and employees shall be familiarized with their terms, and rehearsed in their application.

(iii) All materials relating to the program shall be provided upon request to authorized representatives of the Assistant Secretary and the Director.

(f) *Reports*—(1) *Operations.* Not later than March 1, 1974, the information required in subparagraphs (i), (ii), (iii), and (iv) of this paragraph shall be reported in writing to the nearest OSHA Area Director. Any changes in such information shall be similarly reported in writing within 15 calendar days of such change. (i) A brief description and in-plant location of the area(s) regulated and the address of each regulated area;

(ii) The name(s) and other identifying information as to the presence of 4-Dimethylaminoazobenzene in each regulated area;

(iii) The number of employees in each regulated area, during normal operations including maintenance activities; and

(iv) The manner in which 4-Dimethyaminoazobenzene is present in each regulated area; e.g. whether it is manufactured, processed, used, repackaged, released, stored, or otherwise handled.

(2) *Incidents.* Incidents which result in the release of 4-Dimethylaminoazobenzene into any area where employees may be potentially exposed shall be reported in accordance with this subparagraph.

(i) A report of the occurrence of the incident and the facts obtainable at that time including a report on any medical treatment of affected employees shall be made within 24 hours to the nearest OSHA Area Director.

(ii) A written report shall be filed with the nearest OSHA Area Director within 15 calendar days thereafter and shall include:

(*a*) A specification of the amount of material released, the amount of time involved, and an explanation of the procedure used in determining this figure;

(*b*) A description of the area involved, and the extent of known and possible employee exposure and area contamination; and

(*c*) A report of any medical treatment of affected employees, and any medical surveillance program implemented; and

(*d*) An analysis of the circumstances of the incident, and measures taken or to be taken, with specific completion dates, to avoid further similar releases.

(g) *Medical surveillance.* At no cost to the employee, a program of medical surveillance shall be established and implemented for employees considered for assignment to enter regulated areas, and for authorized employees.

(1) *Examinations.* (i) Before an employee is assigned to enter a regulated area, a preassignment physical examination by a physician shall be provided. The examination shall include the personal history of the employee, family and occupational background, including genetic and environmental factors.

(ii) Authorized employees shall be provided periodic physical examinations, not less often than annually, following the preassignment examination.

(iii) In all physical examinations, the examining physician shall consider whether there exist conditions of increased risk, including reduced immunological competence, those undergoing treatment with steroids or cytotoxic agents, pregnancy and cigarette smoking.

(2) *Records.* (i) Employers of employees examined pursuant to this paragraph shall cause to be maintained complete and accurate records of all such medical examination. Records shall be maintained for the duration of the employee's employment. Upon termination of the employee's employment, including retirement or death, or in the event that the employer ceases business without a successor, records, or notarized true copies thereof, shall be forwarded by registered mail to the Director.

(ii) Records required by this paragraph shall be provided upon request to authorized representatives of the Assistant Secretary or the Director; and upon request of an employee or former employee, to a physician designated by the employee or to a new employer.

(iii) Any physician who conducts a medical examination required by this paragraph shall furnish to the employer a statement of the employee's suitability for employment in the specific exposure.

§ 1910.1016 N-Nitrosodimethylamine.

(a) *Scope and application.* (1) This section applies to any area in which N-Nitrosodimethylamine, Chemical Abstracts Service Registry Number 62759 is manufactured, processed, repackaged, released, handled, or stored, but shall not apply to trans-shipment in sealed containers, except for the labeling requirements under paragraphs (e) (2), (3), and (4) of this section.

(2) This section shall not apply to solid or liquid mixtures containing less than 1.0% by weight or volume of N-Nitrosodimethylamine.

(b) *Definitions.* For the purposes of this section: (1) "Absolute filter" is one capable of retaining 99.97 percent of a mono disperse aerosol of 0.3 μm particles.

(2) "Authorized employee" means an employee whose duties require him to be in the regulated area and who has been specifically assigned by the employer.

(3) "Clean change room" means a room where employees put on clean clothing and/or protective equipment in an environment free of N-Nitrosodimethylamine. The clean change room shall be contiguous to and have an entry from a shower room, when the shower room facilities are otherwise required in this section.

(4) "Closed system" means an operation involving N-Nitrosodimethylamine where containment prevents the release of N-Nitrosodimethylamine into regulated areas, nonregulated areas, or the external environment.

(5) "Decontamination" means the inactivation of N-Nitrosodimethylamine or its safe disposal.

(6) "Director" means the Director, National Institute for Occupational Safety and Health, or any person directed by him or the Secretary of Health, Education, and Welfare to act for the Director.

(7) "Disposal" means the safe removal of N-Nitrosodimethylamine from the work environment.

(8) "Emergency" means circumstance or set of circumstances resulting in the release of N-Nitrosodimethylamine which may result in exposure to or contact with N-Nitrosodimethylamine.

(9) "External environment" means any environment external to regulated and nonregulated areas.

(10) "Isolated system" means a fully enclosed structure other than the vessel of containment of N-Nitrosodimethylamine, which is impervious to the passage of N-Nitrosodimethylamine, and which would prevent the entry of N-Nitrosodimethylamine into regulated areas, nonregulated areas, or the external environment, should leakage or spillage from the vessel of containment occur.

(11) "Laboratory type hood" is a device enclosed on three sides and the top and bottom, designed and maintained so as to draw air inward at an average linear face velocity of 150 feet per minute with a minimum of 125 feet per minute; designed, constructed, and maintained in such a way that an operation involving N-Nitrosodimethylamine within the hood does not require the insertion of any portion of any employee's body other than his hands and arms.

(12) "Nonregulated area" means any area under the control of the employer where entry and exit is neither restricted nor controlled.

(13) "Open-vessel system" means an operation involving N-Nitrosodimethylamine in an open vessel, which is not in an isolated system, a laboratory type hood, nor in any other system affording equivalent protection against the entry of N-Nitrosodimethylamine into regulated areas, nonregulated areas, or the external environment.

(14) "Protective clothing" means clothing designed to protect an employee against contact with or exposure to N-Nitrosodimethylamine.

(15) "Regulated area" means an area where entry and exit is restricted and controlled.

(c) *Requirements for areas containing N-Nitrosodimethylamine.* A regulated area shall be established by an employer where N-Nitrosodimethylamine is manufactured, processed, used, repackaged, released, handled or stored. All such areas shall be controlled in accordance with the requirements for the following category or categories describing the operation involved: (1) *Isolated systems.* Employees working with N-Nitrosodimethylamine within an isolated system, such as a "glove box" shall wash their hands and arms upon completion of the assigned task and before engaging in other activities not associated with the isolated system.

(2) *Closed system operation.* Within regulated areas where N-Nitrosodimethylamine is stored in sealed containers, or contained in a closed system, including piping systems, with any sample ports or openings closed while N-Nitrosodimethylamine is contained within:

(i) Access shall be restricted to authorized employees only;

(ii) Employees shall be required to wash hands, forearms, face and neck upon each exit from the regulated areas, close to the point of exit and before engaging in other activities.

(3) *Open vessel system operations.* Open vessel system operations as de-

fined in paragraph (b)(13) of this section are prohibited.

(4) *Transfer from a closed system, charging or discharging point operations, or otherwise opening a closed system.* In operations involving "laboratory type hoods," or in locations where N-Nitrosodimethylamine is contained in an otherwise "closed system," but is transferred, charged, or discharged into other normally closed containers, the provisions of this subparagraph shall apply.

(i) Access shall be restricted to authorized employees only;

(ii) Each operation shall be provided with continuous local exhaust ventilation so that air movement is always from ordinary work areas to the operation. Exhaust air shall not be discharged to regulated areas, nonregulated areas or the external environment unless decontaminated. Clean makeup air shall be introduced in sufficient volume to maintain the correct operation of the local exhaust system.

(iii) Employees shall be provided with, and required to wear, clean, full body protective clothing (smocks, coveralls, or long-sleeved shirt and pants), shoe covers, and gloves prior to entering the regulated area.

(iv) Employees engaged in N-Nitrosodimethylamine handling operations shall be provided with and required to wear and use a half-face, filter-type respirator for dusts, mists, and fumes, in accordance with § 1910.134. A respirator affording higher levels of protection may be substituted.

(v) Prior to each exit from a regulated area, employees shall be required to remove and leave protective clothing and equipment at the point of exit and at the last exit of the day, to place used clothing and equipment in impervious containers at the point of exit for purposes of decontamination or disposal. The contents of such impervious containers shall be identified, as required under paragraphs (e)(2), (3), and (4) of this section.

(vi) Employees shall be required to wash hands, forearms, face and neck on each exit from the regulated area, close to the point of exit, and before engaging in other activities.

(vii) Employees shall be required to shower after the last exit of the day.

(viii) Drinking fountains are prohibited in the regulated area.

(5) *Maintenance and decontamination activities.* In cleanup of leaks or spills, maintenance or repair operations on contaminated systems or equipment, where direct contact with N-Nitrosodimethylamine could result, each authorized employee entering that area shall:

(i) Be provided with and required to wear clean, impervious garments, including gloves, boots and continuous-air supplied hood in accordance with § 1910.134.

(ii) Be decontaminated before removing the protective garments and hood;

(iii) Be required to shower upon removing the protective garments and hood.

(d) *General regulated area requirements*—(1) *Employee identification.* A daily roster of employees entering regulated areas shall be established and maintained. The rosters or a summary of the rosters shall be retained for a period of 20 years. The rosters and/or summaries shall be provided upon request to authorized representatives of the Assistant Secretary and the Director. In the event that the employer ceases business without a successor, rosters shall be forwarded by registered mail to the Director.

(2) *Emergencies.* In an emergency, immediate measures including, but not limited to, the requirements of subdivisions (d)(2) (i), (ii), (iii), (iv), and (v) of this paragraph shall be implemented.

(i) The potentially affected area shall be evacuated as soon as the emergency has been determined.

(ii) Hazardous conditions created by the emergency shall be eliminated and the potentially affected area shall be decontaminated prior to the resumption of normal operations.

(iii) Special medical surveillance by a physician shall be instituted within 24 hours for employees present in the potentially affected area at the time of the emergency. A report of the medical surveillance and any treatment shall be included in the incident report, in accordance with paragraph (f)(2) of this section.

(iv) Where an employee has a known contact with N-Nitrosodimethylamine, such employee shall be required to shower as soon as possible, unless contraindicated by physical injuries.

(v) An incident report on the emergency shall be reported as provided in paragraph (f)(2) of this section.

(3) *Hygiene facilities and practices.* (i) Storage or consumption of food, storage or use of containers of beverages, storage or application of cosmetics, smoking, storage of smoking materials, tobacco products or other products for chewing, or the chewing of such products, are prohibited in regulated areas.

(ii) Where employees are required by this section to wash, washing facilities shall be provided in accordance with § 1910.141(d)(1) and (2)(ii) through (vii).

(iii) Where employees are required by this section to shower, shower facilities shall be provided in accordance with § 1910.141(d)(3).

(iv) Where employees wear protective clothing and equipment clean change rooms shall be provided, in accordance with § 1910.141(e), for the number of such employees required to change clothes.

(v) Where toilets are in regulated areas, such toilets shall be in a separate room.

(4) *Contamination control.* (i) Regulated areas, except for outdoor systems, shall be maintained under pressure negative with respect to nonregulated areas. Local exhaust ventilation may be used to satisfy this requirement. Clean make-up air in equal volume shall replace air removed.

(ii) Any equipment, material, or other item taken into or removed from a regulated area shall be done so in a manner that does not cause contamination in nonregulated areas or the external environment.

(iii) Decontamination procedures shall be established and implemented to remove N-Nitrosodimethylamine from the surfaces of materials, equipment and the decontamination facility.

(iv) Dry sweeping and dry mopping are prohibited.

(e) *Signs, information and training*—(1) *Signs.* (i) Entrances to regulated areas shall be posted with signs bearing the legend:

CANCER-SUSPECT AGENT

AUTHORIZED PERSONNEL ONLY

(ii) Entrances to regulated areas containing operations covered in paragraph (c)(5) of this section shall be posted with signs bearing the legend:

CANCER-SUSPECT AGENT EXPOSED IN THIS AREA

IMPERVIOUS SUIT INCLUDING GLOVES BOOTS AND AIR-SUPPLIED HOOD REQUIRED AT ALL TIMES

AUTHORIZED PERSONNEL ONLY

(iii) Appropriate signs and instructions shall be posted at the entrance to, and exit from, regulated areas, informing employees of the procedures that must be followed in entering and leaving a regulated area.

(2) *Container contents identification.* (i) Containers of N-Nitrosodimethylamine and containers required under paragraphs (c)(4)(v) and (c)(6)(vii) (*b*), and (c)(6)(viii)(*b*) of this section which are accessible only to, and handled only by, authorized employees, or by other employees trained in accordance with subparagraph (5) of this paragraph, may have contents identification limited to a generic or proprietary name, or other proprietary identification, of the carcinogen and percent.

(ii) Containers of N-Nitrosodimethylamine and containers required under paragraphs (c)(4)(v), (c)(6)(vii)(*b*), and (c)(6)(viii)(*b*) of this section which are accessible to, or handled by employees other than authorized employees or employees trained in accordance with subparagraph (5) of this paragraph, shall have contents identification which includes the full chemical name and Chemical Abstracts Service Registry Number as listed in paragraph (a)(1) of this section.

(iii) Containers shall have the warning words "CANCER-SUSPECT AGENT" displayed immediately under or adjacent to the contents identification.

(iv) Containers which have N-Nitrosodimethylamine contents with corrosive or irritating properties shall have label statements warning of such hazards, noting, if appropriate, particularly sensitive or affected portions of the body.

(3) *Lettering.* Lettering on signs and instructions required by subparagraph (1) shall be a minimum letter height of 2 inches. Labels on containers required under this section shall not be less than ½ the size of the largest lettering on the package, and not less than 8 point type in any instance: *Provided,* That no such required lettering need be more than 1 inch in height.

(4) *Prohibited statements.* No statement shall appear on or near any required sign, label, or instruction which contradicts or detracts from the effect of any required warning, information or instruction.

(5) *Training and indoctrination.* (i) Each employee prior to being authorized to enter a regulated area, shall receive a training and indoctrination program including, but not necessarily limited to:

(*a*) The nature of the carcinogenic hazards of N-Nitrosodimethylamine, including local and systemic toxicity;

(*b*) The specific nature of the operation involving N-Nitrosodimethylamine which could result in exposure;

(*c*) The purpose for and application of the medical surveillance program, including, as appropriate, methods of self-examination;

(*d*) The purpose of and application of decontamination practices and purposes;

(*e*) The purpose for and significance of emergency practices and procedures;

(*f*) The employee's specific role in emergency procedures;

(*g*) Specific information to aid the employee in recognition and evaluation of conditions and situations which may result in the release of N-Nitrosodimethylamine;

(*h*) The purpose for and application of specific first aid procedures and practices.

(*i*) A review of this section at the employee's first training and indoctrination program and annually thereafter.

(ii) Specific emergency procedures shall be prescribed, and posted, and employees shall be familiarized with their terms, and rehearsed in their application.

(iii) All materials relating to the program shall be provided upon request to authorized representatives of the Assistant Secretary and the Director.

(f) *Reports*—(1) *Operations.* Not later than March 1, 1974, the information required in subparagraphs (i), (ii), (iii), and (iv) of this paragraph shall be reported in writing to the nearest OSHA Area Director. Any changes in such information shall be similarly reported in writing within 15 calendar days of such change.

(i) A brief description and in-plant location of the area(s) regulated and the address of each regulated area;

(ii) The name(s) and other identifying information as to the presence of N-Nitrosodimethylamine in each regulated area;

(iii) The number of employees in each regulated area, during normal operations including maintenance activities; and

(iv) The manner in which N-Nitrosodimethylamine is present in each regulated area; e.g. whether it is manufactured, processed, used, repackaged, released, stored, or otherwise handled.

(2) *Incidents.* Incidents which result in the release of N-Nitrosodimethylamine into any area where employees may be potentially exposed shall be reported in accordance with this subparagraph.

(i) A report of the occurrence of the incident and the facts obtainable at that time including a report on any medical treatment of affected employees shall be made within 24 hours to the nearest OSHA Area Director.

(ii) A written report shall be filed with the nearest OSHA Area Director within 15 calendar days thereafter and shall include:

(*a*) A specification of the amount of material released, the amount of time involved, and an explanation of the procedure used in determining this figure;

(*b*) A description of the area involved, and the extent of known and possible employee exposure and area contamination; and

(*c*) A report of any medical treatment of affected employees, and any medical surveillance program implemented; and

(*d*) An analysis of the circumstances of the incident, and measures taken or to be taken, with specific completion dates, to avoid further similar releases.

(g) *Medical surveillance.* At no cost to the employee, a program of medical surveillance shall be established and implemented for employees considered for assignment to enter regulated areas, and for authorized employees.

(1) *Examinations.* (i) Before an employee is assigned to enter a regulated area, a preassignment physical examination by a physician shall be provided. The examination shall include the personal history of the employee, family and occupational background, including genetic and environmental factors.

(ii) Authorized employees shall be provided periodic physical examinations, not less often than annually, following the preassignment examination.

(iii) In all physical examinations, the examining physician shall consider whether there exist conditions of increased risk, including reduced immunological competence, those undergoing treatment with steroids or cytotoxic agents, pregnancy and cigarette smoking.

(2) *Records.* (i) Employers of employees examined pursuant to this paragraph shall cause to be maintained complete and accurate records of all such medical examinations. Records shall be maintained for the duration of the employee's employment. Upon termination of an employee's employment, including retirement or death, or in the event that the employer ceases business without a successor, records, or notarized true copies thereof, shall be forwarded by registered mail to the Director.

(ii) Records required by this paragraph shall be provided upon request to authorized representatives of the Assistant Secretary or the Director, and, upon request of an employee or former employee, to a physician designated by the employee or to a new employer.

(iii) Any physician who conducts a medical examination required by this paragraph shall furnish to the employer a statement of the employee's suitability for employment in the specific exposure.

§ 1910.1017 Vinyl chloride.

(a) *Scope and application.* (1) This section includes requirements for the control of employee exposure to vinyl chloride (chloroethene), Chemical Abstracts Service Registry No. 75014.

(2) This section applies to the manufacture, reaction, packaging, repackaging, storage, handling or use of vinyl chloride or polyvinyl chloride, but does not apply to the handling or use of fabricated products made of polyvinyl chloride.

(3) This section applies to the transportation of vinyl chloride or polyvinyl chloride except to the extent that the Department of Transportation may regulate the hazards covered by this section.

(b) *Definitions.* (1) "Action level" means a concentration of vinyl chloride of 0.5 ppm averaged over an 8-hour work day.

(2) "Assistant Secretary" means the Assistant Secretary of Labor for Occupational Safety and Health, U.S. Department of Labor, or his designee.

(3) "Authorized person" means any person specifically authorized by the employer whose duties require him to enter a regulated area or any person entering such an area as a designated representative of employees for the purpose of exercising an opportunity to observe monitoring and measuring procedures.

(4) "Director" means the Director, National Institute for Occupational Safety and Health, U.S. Department of Health, Education, and Welfare, or his designee.

(5) "Emergency" means any occurrence such as, but not limited to, equipment failure, or operation of a relief device which is likely to, or does, result in massive release of vinyl chloride.

(6) "Fabricated product" means a product made wholly or partly from polyvinyl chloride, and which does not require further processing at temperatures, and for times, sufficient to cause mass melting of the polyvinyl chloride resulting in the release of vinyl chloride.

(7) "Hazardous operation" means any operation, procedure, or activity where a release of either vinyl chloride liquid or gas might be expected as a consequence of the operation or because of an accident in the operation, which would result in an employee exposure in excess of the permissible exposure limit.

(8) "OSHA Area Director" means the Director for the Occupational Safety and Health Administration Area Office having jurisdiction over the geographic area in which the employer's establishment is located.

(9) "Polyvinyl chloride" means polyvinyl chloride homopolymer or copolymer before such is converted to a fabricated product.

(10) "Vinyl chloride" means vinyl chloride monomer.

(c) *Permissible exposure limit.* (1) No employee may be exposed to vinyl chloride at concentrations greater than 1 ppm averaged over any 8-hour period, and

(2) No employee may be exposed to vinyl chloride at concentrations greater than 5 ppm averaged over any period not exceeding 15 minutes.

(3) No employee may be exposed to vinyl chloride by direct contact with liquid vinyl chloride.

(d) *Monitoring.* (1) A program of initial monitoring and measurement shall be undertaken in each establishment to determine if there is any employee exposed, without regard to the use of respirators, in excess of the action level.

(2) Where a determination conducted under paragraph (d)(1) of this section shows any employee exposures, without regard to the use of respirators, in excess of the action level, a program for determining exposures for each such employee shall be established. Such a program:

(i) Shall be repeated at least monthly where any employee is exposed, without regard to the use of respirators, in excess of the permissible exposure limit.

(ii) Shall be repeated not less than quarterly where any employee is exposed, without regard to the use of respirators, in excess of the action level.

(iii) May be discontinued for any employee only when at least two consecutive monitoring determinations, made not less than 5 working days apart, show exposures for that employee at or below the action level.

(3) Whenever there has been a production, process or control change which may result in an increase in the release of vinyl chloride, or the employer has any other reason to suspect that any employee may be exposed in excess of the action level, a determination of employee exposure under paragraph (d)(1) of this section shall be performed.

(4) The method of monitoring and measurement shall have an accuracy (with a confidence level of 95 percent) of not less than plus or minus 50 percent from 0.25 through 0.5 ppm, plus or minus 35 percent from over 0.5 ppm through 1.0 ppm, and plus or minus 25 percent over 1.0 ppm. (Methods meeting these accuracy requirements are available in the "NIOSH Manual of Analytical Methods").

(5) Employees or their designated representatives shall be afforded reasonable opportunity to observe the monitoring and measuring required by this paragraph.

(e) *Regulated area.* (1) A regulated area shall be established where:

(i) Vinyl chloride or polyvinyl chloride is manufactured, reacted, repackaged, stored, handled or used; and

(ii) Vinyl chloride concentrations are in excess of the permissible exposure limit.

(2) Access to regulated areas shall be limited to authorized persons. A daily roster shall be made of authorized persons who enter.

(f) *Methods of compliance.* Employee exposures to vinyl chloride shall be controlled to, at, or below the permissible exposure limit provided in paragraph (c) of this section by engineering, work practice, and personal protective controls as follows:

(1) Feasible engineering and work practice controls shall immediately be used to reduce exposures to, at, or below the permissible exposure limit.

(2) Wherever feasible engineering and work practice controls which can be instituted immediately are not sufficient to reduce exposures to, at, or below the permissible exposure limit, they shall nonetheless be used to reduce exposures to the lowest practicable level, and shall be supplemented by respiratory protection in accordance with paragraph (g) of this section. A program shall be established and implemented to reduce exposures to, at, or below the permissible exposure limit, or to the greatest extent feasible, solely by means of engineering and work practice controls, as soon as feasible.

(3) Written plans for such a program shall be developed and furnished upon request for examination and copying to authorized representatives of the Assistant Secretary and the Director. Such plans shall be updated at least every six months.

(g) *Respiratory protection.* Where respiratory protection is required under this section:

(1) The employer shall provide a respirator which meets the requirements of this paragraph and shall assure that the employee uses such respirator, except that until April 1, 1976, wearing of respirators shall be at the discretion of each employee for exposures not in excess of 25 ppm, measured over any 15-minute period. Until April 1, 1976, each employee who chooses not to wear an appropriate respirator shall be informed at least quarterly of the hazards of vinyl chloride and the purpose, proper use, and limitations of respiratory devices.

(2) Respirators shall be selected from among those jointly approved by the Mining Enforcement and Safety Administration, Department of the Interior, and the National Institute for Occupational Safety and Health under the provisions of 30 CFR Part 11.

(3) A respiratory protection program meeting the requirements of § 1910.134 shall be established and maintained.

(4) Selection of respirators for vinyl chloride shall be as follows:

Atmospheric concentration of vinyl chloride	*Required apparatus*
(i) Unknown, or above 3,600 ppm	Open-circuit, self-contained breathing apparatus, pressure demand type, with full facepiece.
(ii) Not over 3,600 ppm	(A) Combination type C supplied air respirator, pressure demand type, with full or half facepiece, and auxiliary self-contained air supply; or
(iii) Not over 1,000 ppm	(B) Combination type C, supplied air respirator continuous flow type, with full or half facepiece, and auxiliary self-contained air supply. Type C, supplied air respirator, continuous flow type, with full or half facepiece, helmet or hood.
(iv) Not over 100 ppm	(A) Combination type C supplied air respirator demand type, with full facepiece, and auxiliary self-contained air supply; or (B) Open-circuit self-contained breathing apparatus with full facepiece, in demand mode; or (C) Type C supplied air respirator, demand type, with full facepiece.
(v) Not over 25 ppm	(A) A powered air-purifying respirator with hood, helmet, full or half facepiece, and a canister which provides a service life of at least 4 hours for concentrations of vinyl chloride up to 25 ppm, or (B) Gas mask, front- or back-mounted canister which provides a service life of at least 4 hours for concentrations of vinyl chloride up to 25 ppm.
(vi) Not over 10 ppm	(A) Combination type C supplied-air respirator, demand type, with half facepiece, and auxiliary self-contained air supply; or (B) Type C supplied-air respirator, demand type, with half facepiece; or (C) Any chemical cartridge respirator with an organic vapor cartridge which provides a service life of at least 1 hour for concentrations of vinyl chloride up to 10 ppm.

(5)(i) Entry into unknown concentrations or concentrations greater than 36,000 ppm (lower explosive limit) may be made only for purposes of life rescue; and

(ii) Entry into concentrations of less than 36,000 ppm, but greater than 3,600 ppm may be made only for purposes of life rescue, firefighting, or securing equipment so as to prevent a greater hazard from release of vinyl chloride.

(6) Where air-purifying respirators are used:

(i) Air-purifying canisters or cartridges shall be replaced prior to the expiration of their service life or the end of the shift in which they are first used, whichever occurs first, and

(ii) A continuous monitoring and alarm system shall be provided where concentrations of vinyl chloride could reasonably exceed the allowable concentrations for the devices in use. Such system shall be used to alert employees when vinyl chloride concentrations exceed the allowable concentrations for the devices in use.

(7) Apparatus prescribed for higher concentrations may be used for any lower concentration.

(h) *Hazardous operations.* (1) Employees engaged in hazardous operations, including entry of vessels to clean polyvinyl chloride residue from vessel walls, shall be provided and required to wear and use;

(i) Respiratory protection in accordance with paragraphs (c) and (g) of this section; and

(ii) Protective garments to prevent skin contact with liquid vinyl chloride or with polyvinyl chloride residue from vessel walls. The protective garments shall be selected for the operation and its possible exposure conditions.

(2) Protective garments shall be provided clean and dry for each use.

(i) *Emergency situations.* A written operational plan for emergency situations shall be developed for each facility storing, handling, or otherwise using vinyl chloride as a liquid or compressed gas. Appropriate portions of the plan shall be implemented in the event of an emergency. The plan shall specifically provide that:

(1) Employees engaged in hazardous operations or correcting situations of existing hazardous releases shall be equipped as required in paragraph (h) of this section;

(2) Other employees not so equipped shall evacuate the area and not return until conditions are controlled by the methods required in paragraph (f) of this section and the emergency is abated.

(j) *Training.* Each employee engaged in vinyl chloride or polyvinyl chloride operations shall be provided training in a program relating to the hazards of vinyl chloride and precautions for its safe use.

(1) The program shall include: (i) The nature of the health hazard from chronic exposure to vinyl chloride including specifically the carcinogenic hazard;

(ii) The specific nature of operations which could result in exposure to vinyl chloride in excess of the permissible limit and necessary protective steps;

(iii) The purpose for, proper use, and limitations of respiratory protective devices;

(iv) The fire hazard and acute toxicity of vinyl chloride, and the necessary protective steps;

(v) The purpose for and a description of the monitoring program;

(vi) The purpose for, and a description of, the medical surveillance program;

(vii) Emergency procedures;

(viii) Specific information to aid the employee in recognition of conditions which may result in the release of vinyl chloride; and

(ix) A review of this standard at the employee's first training and indoctrination program, and annually thereafter.

(2) All materials relating to the program shall be provided upon request to the Assistant Secretary and the Director.

(k) *Medical surveillance.* A program of medical surveillance shall be instituted for each employee exposed, without regard to the use of respirators, to vinyl chloride in excess of the action level. The program shall provide each such employee with an opportunity for examinations and tests in accordance with this paragraph. All medical examinations and procedures shall be performed by or under the supervision of a licensed physician, and shall be provided without cost to the employee.

(1) At the time of initial assignment, or upon institution of medical surveillance;

(i) A general physical examination shall be performed, with specific attention to detecting enlargement of liver, spleen or kidneys, or dysfunction in these organs, and for abnormalities in skin, connective tissues and the pulmonary system (See Appendix A).

(ii) A medical history shall be taken, including the following topics:

(A) Alcohol intake;

(B) Past history of hepatitis;

(C) Work history and past exposure to potential hepatotoxic agents, including drugs and chemicals;

(D) Past history of blood transfusions; and

(E) Past history of hospitalizations.

(iii) A serum specimen shall be obtained and determinations made of:

(A) Total bilirubin;

(B) Alkaline phosphatase;

(C) Serum glutamic oxalacetic transaminase (SGOT);

(D) Serum glutamic pyruvic transaminase (SGPT); and

(E) Gamma glustamyl transpeptidase.

(2) Examinations provided in accordance with this paragraph shall be performed at least:

(i) Every 6 months for each employee who has been employed in vinyl chloride or polyvinyl chloride manufacturing for 10 years or longer; and

(ii) Annually for all other employees.

(3) Each employee exposed to an emergency shall be afforded appropriate medical surveillance.

(4) A statement of each employee's suitability for continued exposure to vinyl chloride including use of protective equipment and respirators, shall be obtained from the examining physician promptly after any examination. A copy of the physician's statement shall be provided each employee.

(5) If any employee's health would be materially impaired by continued exposure, such employee shall be withdrawn from possible contact with vinyl chloride.

(6) Laboratory analyses for all biological specimens included in medical examinations shall be performed in laboratories licensed under 42 CFR Part 74.

(7) If the examining physician determines that alternative medical examinations to those required by paragraph (k)(1) of this section will provide at least equal assurance of detecting medical conditions pertinent to the exposure to vinyl chloride, the employer may accept such alternative examinations as meeting the requirements of paragraph (k)(1) of this section, if the employer obtains a statement from the examining physician setting forth the alternative examinations and the rationale for substitution. This statement shall be available upon request for examination and copying to authorized representatives of the Assistant Secretary and the Director.

(l) *Signs and labels.* (1) Entrances to regulated areas shall be posted with legible signs bearing the legend:

CANCER-SUSPECT AGENT AREA

AUTHORIZED PERSONNEL ONLY

(2) Areas containing hazardous operations or where an emergency currently exists shall be posted with legible signs bearing the legend:

CANCER-SUSPECT AGENT IN THIS AREA

PROTECTIVE EQUIPMENT REQUIRED

AUTHORIZED PERSONNEL ONLY

(3) Containers of polyvinyl chloride resin waste from reactors or other waste contaminated with vinyl chloride shall be legibly labeled:

CONTAMINATED WITH VINYL CHLORIDE

CANCER-SUSPECT AGENT

(4) Containers of polyvinyl chloride shall be legibly labeled:

POLYVINYL CHLORIDE (OR TRADE NAME)

Contains

VINYL CHLORIDE

VINYL CHLORIDE IS A CANCER-SUSPECT AGENT

(5) Containers of vinyl chloride shall be legibly labeled either: (i)

VINYL CHLORIDE

EXTREMELY FLAMMABLE GAS UNDER PRESSURE

CANCER SUSPECT AGENT

or (ii) In accordance with 49 CFR Parts 170-189, with the additional legend:

CANCER-SUSPECT AGENT

applied near the label or placard.

(6) No statement shall appear on or near any required sign, label or instruction which contradicts or detracts from the effect of, any required warning, information or instruction.

(m) *Records.* (1) All records maintained in accordance with this section shall include the name and social security number of each employee where relevant.

(2) Records of required monitoring and measuring, medical records, and authorized personnel rosters, shall be made and shall be available upon request for examination and copying to authorized representatives of the Assistant Secretary and the Director.

(i) Monitoring and measuring records shall:

(A) State the date of such monitoring and measuring and the concentrations determined and identify the instruments and methods used;

(B) Include any additional information necessary to determine individual employee exposures where such exposures are determined by means other than individual monitoring of employees; and

(C) Be maintained for not less than 30 years.

(ii) Authorized personnel rosters shall be maintained for not less than 30 years.

(iii) Medical records shall be maintained for the duration of the employment of each employee plus 20 years, or 30 years, whichever is longer.

(3) In the event that the employer ceases to do business and there is no successor to receive and retain his records for the prescribed period, these records shall be transmitted by registered mail to the Director, and each employee individually notified in writing of this transfer.

(4) Employees or their designated representatives shall be provided access to examine and copy records of required monitoring and measuring.

(5) Former employees shall be provided access to examine and copy required monitoring and measuring records reflecting their own exposures.

(6) Upon written request of any employee, a copy of the medical record of that employee shall be furnished to any physician designated by the employee.

(n) *Reports.* (1) Not later than 1 month after the establishment of a regulated area, the following information shall be reported to the OSHA Area Director. Any changes to such information shall be reported within 15 days.

(i) The address and location of each establishment which has one or more regulated areas; and

(ii) The number of employees in each regulated area during normal operations, including maintenance.

(2) Emergencies, and the facts obtainable at that time, shall be reported within 24 hours to the OSHA Area Director. Upon request of the Area Director, the employer shall submit additional information in writing relevant to the nature and extent of employee exposures and measures taken to prevent future emergencies of similar nature.

(3) Within 10 working days following any monitoring and measuring which discloses that any employee has been exposed, without regard to the use of respirators, in excess of the permissible exposure limit, each such employee shall be notified in writing of the results of the exposure measurement and the steps being taken to reduce the exposure to within the permissible exposure limit.

(o) *Effective dates.* (1) Until April 1, 1975, the provisions currently set forth in § 1910.93q of this Part shall apply.

(2) Effective April 1, 1975, the provisions set forth in § 1910.93q of this Part shall apply.

APPENDIX A—SUPPLEMENTARY MEDICAL INFORMATION

When required tests under paragraph (k)(1) of this section show abnormalities, the tests should be repeated as soon as practicable, preferably within 3 to 4 weeks. If tests remain abnormal, consideration should be given to withdrawal of the employee from contact with vinyl chloride, while a more comprehensive examination is made.

Additional tests which may be useful:

A. For kidney dysfunction: urine examination for albumin, red blood cells, and exfoliative abnormal cells.

B. Pulmonary system: Forced vital capacity, Forced expiratory volume at 1 second, and chest roentgenogram (posterior-anterior, 14 × 17 inches).

C. Additional serum tests: Lactic acid dehydrogenase, lactic acid dehydrogenase isoenzyme, protein determination, and protein electrophoresis.

D. For a more comprehensive examination on repeated abnormal serum tests: Hepatitis B antigen, and liver scanning.

§ 1910.1018 Inorganic arsenic.

(a) *Scope and application.* This section applies to all occupational exposures to inorganic arsenic except that this section does not apply to employee exposures in agriculture or resulting from pesticide application, the treatment of wood with preservatives or the utilization of arsenically preserved wood.

(b) *Definitions.* "Action level" means a concentration of inorganic arsenic of 5 micrograms per cubic meter of air (5 μg/m^3) averaged over any eight (8) hour period.

"Assistant Secretary" means the Assistant Secretary of Labor for Occupational Safety and Health, U.S. Department of Labor, or designee.

"Authorized person" means any person specifically authorized by the employer whose duties require the person to enter a regulated area, or any person entering such an area as a designated representative of employees for the purpose of exercising the right to observe monitoring and measuring procedures under paragraph (e) of this section.

"Director" means the Director, National Institute for Occupational Safety and Health, U.S. Department of Health, Education and Welfare, or designee.

"Inorganic arsenic" means copper aceto- arsenite and all inorganic compounds containing arsenic except arsine, measured as arsenic (As).

(c) *Permissible exposure limit.* The employer shall assure that no employee is exposed to inorganic arsenic at concentrations greater than 10 micrograms per cubic meter of air (10 μg/m^3), averaged over any 8-hour period.

(d) *Notification of use.* (1) By October 1, 1978 or within 60 days after the introduction of inorganic arsenic into the workplace, every employer who is required to establish a regulated area in his workplaces shall report in writing to the OSHA area office for each such workplace:

(i) The address of each such workplace;

(ii) The approximate number of employees who will be working in regulated areas; and

(iii) A brief summary of the operations creating the exposure and the actions which the employer intends to take to reduce exposures.

(2) Whenever there has been a significant change in the information required by paragraph (d)(1) of this section the employer shall report the changes in writing within 60 days to the OSHA area office.

(e) *Exposure monitoring*—(1) *General.* (i) Determinations of airborne exposure levels shall be made from air samples that are representative of each employee's exposure to inorganic arsenic over an eight (8) hour period.

(ii) For the purposes of this section, employee exposure is that exposure which would occur if the employee were not using a respirator.

(iii) The employer shall collect full shift (for at least 7 continuous hours) personal samples including at least one sample for each shift for each job classification in each work area.

(2) *Initial monitoring.* Each employer who has a workplace or work operation covered by this standard shall monitor each such workplace and work operation to accurately determine the airborne concentration of inorganic arsenic to which employees may be exposed.

(3) *Frequency.* (i) If the initial monitoring reveals employee exposure to be below the action level the measurements need not be repeated except as otherwise provided in paragraph (e)(4) of this section.

(ii) If the initial monitoring, required by this section, or subsequent monitoring reveals employee exposure to be above the permissible exposure limit, the employer shall repeat monitoring at least quarterly.

(iii) If the initial monitoring, required by this section, or subsequent monitoring reveals employee exposure to be above the action level and below the permissible exposure limit the employee shall repeat monitoring at least every six months.

(iv) The employer shall continue monitoring at the required frequency until at least two consecutive measurements, taken at least seven (7) days apart, are below the action level at which time the employer may discontinue monitoring for that employee until such time as any of the events in paragraph (e)(4) of this section occur.

(4) *Additional monitoring.* Whenever there has been a production, process, control or personal change which may result in new or additional exposure to inorganic arsenic, or whenever the employer has any other reason to suspect a change which may result in new or additional exposures to inorganic arsenic, additional monitoring which complies with paragraph (e) of this section shall be conducted.

(5) *Employee notification.* (i) Within five (5) working days after the receipt of monitoring results, the employer shall notify each employee in writing of the results which represent that employee's exposures.

(ii) Whenever the results indicate that the representative employee exposure exceeds the permissible exposure limit, the employer shall include in the written notice a statement that the permissible exposure limit was exceeded and a description of the corrective action taken to reduce exposure to or below the permissible exposure limit.

(6) *Accuracy of measurement.* (i) The employer shall use a method of monitoring and measurement which has an accuracy (with a confidence level of 95 percent) of not less than plus or minus 25 percent for concentrations of inorganic arsenic greater than or equal to 10 μg/m^3.

(ii) The employer shall use a method of monitoring and measurement which has an accuracy (with confidence level of 95 percent) of not less than plus or minus 35 percent for concentrations of inorganic arsenic greater than 5 μg/m^3 but less than 10 μg/m^3.

(f) *Regulated area*—(1) *Establishment.* The employer shall establish regulated areas where worker exposures to inorganic arsenic, without regard to the use of respirators, are in excess of the permissible limit.

(2) *Demarcation.* Regulated areas shall be demarcated and segregated from the rest of the workplace in any manner that minimizes the number of persons who will be exposed to inorganic arsenic.

(3) *Access.* Access to regulated areas shall be limited to authorized persons or to persons otherwise authorized by the Act or regulations issued pursuant thereto to enter such areas.

(4) *Provision of respirators.* All persons entering a regulated area shall be supplied with a respirator, selected in accordance with paragraph (h)(2) of this section.

(5) *Prohibited activities.* The employer shall assure that in regulated areas, food or beverages are not consumed, smoking products, chewing tobacco and gum are not used and cosmetics are not applied, except that these activities may be conducted in the lunchrooms, change rooms and showers required under paragraph (m) of this section. Drinking water may be consumed in the regulated area.

(g) *Methods of compliance*—(1) *Controls.* (i) The employer shall institute at the earliest possible time but not later than December 31, 1979, engineering and work practice controls to reduce exposures to or below the permissible exposure limit, except to the extent that the employer can establish that such controls are not feasible.

(ii) Where engineering and work practice controls are not sufficient to reduce exposures to or below the permissible exposure limit, they shall nonetheless be used to reduce exposures to the lowest levels achievable by these controls and shall be supplemented by the use of respirators in accordance with paragraph (h) of this section and other necessary personal protective equipment. Employee rotation is not required as a control strategy before respiratory protection is instituted.

(2) *Compliance Program.* (i) The employer shall establish and implement a written program to reduce exposures to or below the permissible exposure

limit by means of engineering and work practice controls.

(ii) Written plans for these compliance programs shall include at least the following:

(A) A description of each operation in which inorganic arsenic is emitted; e.g. machinery used, material processed, controls in place, crew size, operating procedures and maintenance practices;

(B) Engineering plans and studies used to determine methods selected for controlling exposure to inorganic arsenic;

(C) A report of the technology considered in meeting the permissible exposure limit;

(D) Monitoring data;

(E) A detailed schedule for implementation of the engineering controls and work practices that cannot be implemented immediately and for the adaption and implementation of any additional engineering and work practices necessary to meet the permissible exposure limit;

(F) Whenever the employer will not achieve the permissible exposure limit with engineering controls and work practices by December 31, 1979, the employer shall include in the compliance plan an analysis of the effectiveness of the various controls, shall install engineering controls and institute work practices on the quickest schedule feasible, and shall include in the compliance plan and implement a program to minimize the discomfort and maximize the effectiveness of respirator use; and

(G) Other relevant information.

(iii) Written plans for such a program shall be submitted upon request to the Assistant Secretary and the Director, and shall be available at the worksite for examination and copying by the Assistant Secretary, Director, any affected employee or authorized employee representatives.

(iv) The plans required by this paragraph shall be revised and updated at least every 6 months to reflect the current status of the program.

(h) *Respiratory protection*—(1) *General.* The employer shall assure that respirators are used where required under this section to reduce employee exposures to below the permissible exposure limit and in emergencies. Respirators shall be used in the following circumstances:

(i) During the time period necessary to install or implement feasible engineering or work practice controls;

(ii) In work operations such as maintenance and repair activities in which the employer establishes that engineering and work practice controls are not feasible;

(iii) In work situations in which engineering controls and supplemental work practice controls are not yet sufficient to reduce exposures to or below the permissible exposure limit; or

(iv) In emergencies.

(2) *Respirator selection.* (i) Where respirators are required under this section the employer shall select, provide at no cost to the employee and assure the use of the appropriate respirator or combination of respirators from Table I below for inorganic arsenic compounds without significant vapor pressure, or Table II below for inorganic arsenic compounds which have significant vapor pressure.

(ii) Where employee exposures exceed the permissible exposure limit for inorganic arsenic and also exceed the relevant limit for particular gasses such as sulfur dioxide, any air purifying respirator supplied to the employee as permitted by this standard must have a combination high efficiency filter with an appropriate gas sorbent. (See footnote in Table 1)

TABLE I—*Respiratory protection for inorganic arsenic particulate except for those with significant vapor pressure*

Concentration of inorganic arsenic (as As) or condition of use	Required respirator
(i) Unknown or greater or lesser than 20,000 $\mu g/m^3$ (20 mg/m^3) or firefighting.	(A) Any full facepiece self-contained breathing apparatus operated in positive pressure mode.
(ii) Not greater than 20,000 $\mu g/m^3$ (20 mg/m^3)	(A) Supplied air respirator with full facepiece, hood, or helmet or suit and operated in positive pressure mode.
(iii) Not greater than 10,000 $\mu g/m^3$ (10 mg/m^3)	(A) Powered air-purifying respirators in all inlet face coverings with high efficiency filters.[1] (B) Half-mask supplied air respirators operated in positive pressure mode.
(iv) Not greater than 500 $\mu g/m^3$	(A) Full facepiece air-purifying respirator equipped with high-efficiency filter.[1] (B) Any full facepiece supplied air respirator. (C) Any full facepiece self-contained breathing apparatus.
(v) Not greater than 100 $\mu g/m^3$	(A) Half-mask air-purifying respirator equipped with high-efficiency filter.[1] (B) Any half-mask supplied air respirator.

[1] High-efficiency filter—99.97 pct efficiency against 0.3 micrometer monodisperse diethyl-hexyl phthalate (DOP) particles.

TABLE II—*Respiratory protection for inorganic arsenicals (such as arsenic trichloride[2] and arsenic phosphide) with significant vapor pressure*

Concentration of inorganic arsenic (as As) or condition of use	Required respirator
(i) Unknown or greater or lesser than 20,000 $\mu g/m^3$ (20 mg/m^3) or firefighting.	(A) Any full facepiece self-contained breathing apparatus operated in positive pressure mode.
(ii) Not greater than 20,000 $\mu g/m^3$ (20 mg/m^3)	(A) Supplied air respirator with full facepiece, hood, or helmet or suit and operated in positive pressure mode.
(iii) Not greater than 10,000 $\mu g/m^3$ (10 mg/m^3)	(A) Half-mask[2] supplied air respirator operated in positive pressure mode.
(iv) Not greater than 500 $\mu g/m^3$	(A) Front or back mounted gas mask equipped with high-efficiency filter[1] and acid gas canister. (B) Any full facepiece supplied air respirator. (C) Any full facepiece self-contained breathing apparatus.
(v) Not greater than 100 $\mu g/m^3$	(A) Half-mask[2] air-purifying respirator equipped with high-efficiency filter[1] and acid gas cartridge. (B) Any half-mask supplied air respirator.

[1] High efficiency filter—99.97 pct efficiency against 0.3 micrometer monodisperse diethyl-hexyl phthalate (DOP) particles.

[2] Half-mask respirators shall not be used for protection against arsenic trichloride, as it is rapidly absorbed through the skin.

(iii) The employer shall select respirators from among those approved for protection against dust, fume, and mist by the National Institute for Occupational Safety and Health (NIOSH) under the provisions of 30 CFR Part 11.

(3) *Respirator usage.* (i) The employer shall assure that the respirator issued to the employee exhibits minimum facepiece leakage and that the respirator is fitted properly.

(ii) The employer shall perform qualitative fit tests at the time of initial fitting and at least semi-annually thereafter for each employee wearing respirators, where quantitative fit tests are not required.

(iii) Employers with more than 20 employees wearing respirators shall perform a quantitative face fit test at the time of initial fitting and at least semi-annually thereafter for each employee wearing negative pressure respirators. The test shall be used to select facepieces that provide the required protection as prescribed in Table I or II.

(iv) If an employee has demonstrated difficulty in breathing during the fitting test or during use, he or she shall be examined by a physician trained in pulmonary medicine to determine whether the employee can wear a respirator while performing the required duty.

(4) *Respirator program.* (i) The employer shall institute a respiratory protection program in accordance with 29 CFR 1910.134 (b), (d), (e) and (f).

(ii) The employer shall permit each employee who uses a filter respirator to change the filter elements whenever an increase in breathing resistance is detected and shall maintain an adequate supply of filter elements for this purpose.

(iii) Employees who wear respirators shall be permitted to leave work areas to wash their face and respirator facepiece to prevent skin irritation associated with respirator use.

(5) *Commencement of respirator use.* (i) The employer's obligation to provide respirators commences on August 1, 1978 for employees exposed to over 500 $\mu g/m^3$ of inorganic arsenic, as soon as possible but not later than October 1, 1978 for employees exposed to over 50 $\mu g/m^3$ of inorganic arsenic, and as soon as possible but no later than December 1, 1978 for employees exposed to between 10 and 50 $\mu g/m^3$ of inorganic arsenic.

(ii) Employees with exposures below 50 $\mu g/m^3$ of inorganic arsenic may choose not to wear respirators until December 31, 1979.

(iii) After December 1, 1978 any employee required to wear respirators may choose, and if so chosen the employer must provide, if it will give proper protection, a powered air purifying respirator and in addition if necessary a combination dust and acid gas respirator for times where exposures to gases are over the relevant exposure limits.

(j) *Protective work clothing and equipment*—(1) *Provision and use.* Where the possibility of skin or eye irritation from inorganic arsenic exists, and for all workers working in regulated areas, the employer shall provide at no cost to the employee, and assure that employees use, appropriate and clean protective work clothing and equipment such as, but not limited to:

(i) Coveralls or similar full-body work clothing;

(ii) Gloves, and shoes or coverlets;

(iii) Face shields or vented goggles when necessary to prevent eye irritation, which comply with the requirements of § 1910.133(a)(2)(a)(6); and

(iv) Impervious clothing for employees subject to exposure to arsenic trichloride.

(2) *Cleaning and replacement.* (i) The employer shall provide the protective clothing required in paragraph (j)(1) of this section in a freshly laundered and dry condition at least weekly, and daily if the employee works in areas where exposure are over 100 $\mu g/m^3$ of inorganic arsenic or in areas where more frequent washing is needed to prevent skin irritation.

(ii) The employer shall clean, launder, or dispose of protective clothing required by paragraph (j)(1) of this section.

(iii) The employer shall repair or replace the protective clothing and equipment as needed to maintain their effectiveness.

(iv) The employer shall assure that all protective clothing is removed at the completion of a work shift only in change rooms prescribed in paragraph (m)(1) of this section.

(v) The employer shall assure that contaminated protective clothing which is to be cleaned, laundered, or disposed of, is placed in a closed container in the change-room which prevents dispersion of inorganic arsenic outside the container.

(vi) The employer shall inform in writing any person who cleans or launders clothing required by this section, of the potentially harmful affects including the carcinogenic effects of exposure to inorganic arsenic.

(vii) The employer shall assure that the containers of contaminated protective clothing and equipment in the workplace or which are to be removed from the workplace are labelled as follows:

CAUTION: Clothing contaminated with inorganic arsenic; do not remove dust by blowing or shaking; Dispose of inorganic arsenic contaminated wash water in accordance with applicable local, State or Federal regulations.

(viii) The employer shall prohibit the removal of inorganic arsenic from protective clothing or equipment by blowing or shaking.

(k) *Housekeeping*—(1) *Surfaces.* All surfaces shall be maintained as free as practicable of accumulations of inorganic arsenic.

(2) *Cleaning floors.* Floors and other accessible surfaces contaminated with inorganic arsenic may not be cleaned by the use of compressed air, and shoveling and brushing may be used only where vacuuming or other relevant methods have been tried and found not to be effective.

(3) *Vacuuming.* Where vacuuming methods are selected, the vacuums shall be used and emptied in a manner

to minimize the reentry of inorganic arsenic into the workplace.

(4) *Housekeeping plan.* A written housekeeping and maintenance plan shall be kept which shall list appropriate frequencies for carrying out housekeeping operations, and for cleaning and maintaining dust collection equipment. The plan shall be available for inspection by the Assistant Secretary.

(5) *Maintenance of equipment.* Periodic cleaning of dust collection and ventilation equipment and checks of their effectiveness shall be carried out to maintain the effectiveness of the system and a notation kept of the last check of effectiveness and cleaning or maintenance.

(l) [Reserved]

(m) *Hygiene facilities and practices*—(1) *Change rooms.* The employer shall provide for employees working in regulated areas or subject to the possibility of skin or eye irritation from inorganic arsenic, clean change rooms equipped with storage facilities for street clothes and separate storage facilities for protective clothing and equipment in accordance with 29 CFR 1910.141(e).

(2) *Showers.* (i) The employer shall assure that employees working in regulated areas or subject to the possibility of skin or eye irritation from inorganic arsenic shower at the end of the work shift.

(ii) The employer shall provide shower facilities in accordance with § 1910.141(d)(3).

(3) *Lunchrooms.* (i) The employer shall provide for employees working in regulated areas, lunchroom facilities which have a temperature controlled, positive pressure, filtered air supply, and which are readily accessible to employees working in regulated areas.

(ii) The employer shall assure that employees working in the regulated area or subject to the possibility of skin or eye irritation from exposure to inorganic arsenic wash their hands and face prior to eating.

(4) *Lavatories.* The employer shall provide lavatory facilities which comply with § 1910.141(d) (1) and (2).

(5) *Vacuuming clothes.* The employer shall provide facilities for employees working in areas where exposure, without regard to the use of respirators, exceeds 100 $\mu g/m^3$ to vacuum their protective clothing and clean or change shoes worn in such areas before entering change rooms, lunchrooms or shower rooms required by paragraph (j) of this section and shall assure that such employees use such facilities.

(6) *Avoidance of skin irritation.* The employer shall assure that no employee is exposed to skin or eye contact with arsenic trichloride, or to skin or eye contact with liquid or particulate inorganic arsenic which is likely to cause skin or eye irritation.

(n) *Medical surveillance*—(1) *General*—(i) *Employees covered.* The employer shall institute a medical surveillance program for the following employees:

(A) All employees who are or will be exposed above the action level, without regard to the use of respirators, at least 30 days per year; and

(B) All employees who have been exposed above the action level, without regard to respirator use, for 30 days or more per year for a total of 10 years or more of combined employment with the employer or predecessor employers prior to or after the effective date of this standard. The determination of exposures prior to the effective date of this standard shall be based upon prior exposure records, comparison with the first measurements taken after the effective date of this standard, or comparison with records of exposures in areas with similar processes, extent of engineering controls utilized and materials used by that employer.

(ii) *Examination by physician.* The employer shall assure that all medical examinations and procedures are performed by or under the supervision of a licensed physician, and shall be provided without cost to the employee, without loss of pay and at a reasonable time and place.

(2) *Initial examinations.* By December 1, 1978, for employees initially covered by the medical provisions of this section, or thereafter at the time of initial assignment to an area where the employee is likely to be exposed over the action level at least 30 days per year, the employer shall provide each affected employee an opportunity for a medical examination, including at least the following elements:

(i) A work history and a medical history which shall include a smoking history and the presence and degree of respiratory symptoms such as breathlessness, cough, sputum production and wheezing.

(ii) A medical examination which shall include at least the following:

(A) A 14" by 17" posterior-anterior chest X-ray and International Labor Office UICC/Cincinnati (ILO U/C) rating;

(B) A nasal and skin examination;

(C) A sputum cytology examination; and

(D) Other examinations which the physician believes appropriate because of the employees exposure to inorganic arsenic or because of required respirator use.

(3) *Periodic examinations.* (i) The employer shall provide the examinations specified in paragraphs (n)(2)(i) and (n)(2)(ii) (A), (B), and (D) at least annually for covered employees who

are under 45 years of age with fewer than 10 years of exposure over the action level without regard to respirator use.

(ii) The employer shall provide the examinations specified in paragraphs (n)(2)(i) and (n)(2)(ii) of this section at least semi-annually for other covered employees.

(iii) Whenever a covered employee has not taken the examinations specified in paragraphs (n)(2)(i) and (n)(2)(ii) of this section within six (6) months preceding the termination of employment, the employer shall provide such examinations to the employee upon termination of employment.

(4) *Additional examinations.* If the employee for any reason develops signs or symptoms commonly associated with exposure to inorganic arsenic the employer shall provide an appropriate examination and emergency medical treatment.

(5) *Information provided to the physician.* The employer shall provide the following information to the examining physician:

(i) A copy of this standard and its appendices;

(ii) A description of the affected employee's duties as they relate to the employee's exposure;

(iii) The employee's representative exposure level or anticipated exposure level;

(iv) A description of any personal protective equipment used or to be used; and

(v) Information from previous medical examinations of the affected employee which is not readily available to the examining physician.

(6) *Physician's written opinion.* (i) The employer shall obtain a written opinion from the examining physician which shall include:

(A) The results of the medical examination and tests performed;

(B) The physician's opinion as to whether the employee has any detected medical conditions which would place the employee at increased risk of material impairment of the employee's health from exposure to inorganic arsenic;

(C) Any recommended limitations upon the employee's exposure to inorganic arsenic or upon the use of protective clothing or equipment such as respirators; and

(D) A statement that the employee has been informed by the physician of the results of the medical examination and any medical conditions which require further explanation or treatment.

(ii) The employer shall instruct the physician not to reveal in the written opinion specific findings or diagnoses unrelated to occupational exposure.

(iii) The employer shall provide a copy of the written opinion to the affected employee.

(o) *Employee information and training*—(1) *Training program.* (i) The employer shall institute a training program for all employees who are subject to exposure to inorganic arsenic above the action level without regard to respirator use, or for whom there is the possibility of skin or eye irritation from inorganic arsenic. The employer shall assure that those employees participate in the training program.

(ii) The training program shall be provided by October 1, 1978, for employees covered by this provision, at the time of initial assignment for those subsequently covered by this provision, and shall be repeated at least quarterly for employees who have optional use of respirators and at least annually for other covered employees thereafter; and the employer shall assure that each employee is informed of the following:

(A) The information contained in Appendix A;

(B) The quantity, location, manner of use, storage, sources of exposure, and the specific nature of operations which could result in exposure to inorganic arsenic as well as any necessary protective steps;

(C) The purpose, proper use, and limitation of respirators;

(D) The purpose and a description of the medical surveillance program as required by paragraph (n) of this section;

(E) The engineering controls and work practices associated with the employee's job assignment; and

(F) A review of this standard.

(2) *Access to training materials.* (i) The employer shall make readily available to all affected employees a copy of this standard and its appendices.

(ii) The employer shall provide, upon request, all materials relating to the employee information and training program to the Assistant Secretary and the Director.

(p) *Signs and labels*—(1) *General.* (i) The employer may use labels or signs required by other statutes, regulations, or ordinances in addition to, or in combination with, signs and labels required by this paragraph.

(ii) The employer shall assure that no statement appears on or near any sign or label required by this paragraph which contradicts or detracts from the meaning of the required sign or label.

(2) *Signs.* (i) The employer shall post signs demarcating regulated areas bearing the legend:

DANGER

INORGANIC ARSENIC

CANCER HAZARD

AUTHORIZED PERSONNEL ONLY

NO SMOKING OR EATING

RESPIRATOR REQUIRED

(ii) The employer shall assure that signs required by this paragraph are illuminated and cleaned as necessary so that the legend is readily visible.

(3) *Labels.* The employer shall apply precautionary labels to all shipping and storage containers of inorganic arsenic, and to all products containing inorganic arsenic except when the inorganic arsenic in the product is bound in such a manner so as to make unlikely the possibility of airborne exposure to inorganic arsenic. (Possible examples of products not requiring labels are semiconductors, light emitting diodes and glass). The label shall bear the following legend:

DANGER

CONTAINS INORGANIC ARSENIC

CANCER HAZARD

HARMFUL IF INHALED OR
SWALLOWED

USE ONLY WITH ADEQUATE
VENTILATION
OR RESPIRATORY PROTECTION

(q) *Recordkeeping*—(1) *Exposure monitoring.* (i) The employer shall establish and maintain an accurate record of all monitoring required by paragraph (e) of this section.

(ii) This record shall include:

(A) The date(s), number, duration, location, and results of each of the samples taken, including a description of the sampling procedure used to determine representative employee exposure where applicable;

(B) A description of the sampling and analytical methods used and evidence of their accuracy;

(C) The type of respiratory protective devices worn, if any;

(D) Name, social security number, and job classification of the employees monitored and of all other employees whose exposure the measurement is intended to represent; and

(E) The environmental variables that could affect the measurement of the employee's exposure.

(ii) The employer shall maintain these monitoring records for at least 40 years or for the duration of employment plus 20 years, whichever, is longer.

(2) *Medical surveillance.* (i) The employer shall establish and maintain an accurate record for each employee subject to medical surveillance as required by paragraph (n) of this section.

(ii) This record shall include:

(A) The name, social security number, and description of duties of the employee;

(B) A copy of the physician's written opinions;

(C) Results of any exposure monitoring done for that employee and the representative exposure levels supplied to the physician; and

(D) Any employee medical complaints related to exposure to inorganic arsenic.

(iii) The employer shall in addition keep, or assure that the examining physician keeps, the following medical records;

(A) A copy of the medical examination results including medical and work history required under paragraph (n) of this section;

(B) A description of the laboratory procedures and a copy of any standards or guidelines used to interpret the test results or references to that information;

(C) The initial X-ray;

(D) The X-rays for the most recent 5 years;

(E) Any X-rays with a demonstrated abnormality and all subsequent X-rays;

(F) The initial cytologic examination slide and written description;

(G) The cytologic examination slide and written description for the most recent 5 years; and

(H) Any cytologic examination slides with demonstrated atypia, if such atypia persists for 3 years, and all subsequent slides and written descriptions.

(iv) The employer shall maintain or assure that the physician maintains those medical records for at least 40 years, or for the duration of employment plus 20 years whichever is longer.

(3) *Availability.* (i) The employer shall make available upon request all records required to be maintained by paragraph (m) of this section to the Assistant Secretary and the Director for examination and copying.

(ii) The employer shall make available upon request records of employee exposure monitoring required by paragraph (q)(1) of this section for inspection and copying to affected employees, former employees and their designated representatives.

(iii) The employer shall make available upon request an employee's medical records and exposure records representative of that employee's exposure required to be maintained by paragraph (q) of this section to the affected employee or former employee or to a physician designated by the affected employee or former employee.

(4) *Transfer of records.* (i) Whenever the employer ceases to do business, the successor employer shall receive and retain all records required to be maintained by this section.

(ii) Whenever the employer ceases to do business and there is no successor employer to receive and retain the records required to be maintained by this section for the prescribed period, these records shall be transmitted to the Director.

(iii) At the expiration of the retention period for the records required to be maintained by this section, the employer shall notify the Director at least 3 months prior to the disposal of such records and shall transmit those records to the Director if he requests them within that period.

(r) *Observation of monitoring*—(1) *Employee observation.* The employer shall provide affected employees or their designated representatives an opportunity to observe any monitoring of employee exposure to inorganic arsenic conducted pursuant to paragraph (e) of this section.

(2) *Observation procedures.* (i) Whenever observation of the monitoring of employee exposure to inorganic arsenic requires entry into an area where the use of respirators, protective clothing, or equipment is required, the employer shall provide the observer with and assure the use of such respirators, clothing, and such equipment, and shall require the observer to comply with all other applicable safety and health procedures.

(ii) Without interfering with the monitoring, observers shall be entitled to;

(A) Receive an explanation of the measurement procedures;

(B) Observe all steps related to the monitoring of inorganic arsenic performed at the place of exposure; and

(C) Record the results obtained or receive copies of the results when returned by the laboratory.

(s) *Effective date.* This standard shall become effective August 1, 1978.

(t) *Appendices.* The information contained in the appendices to this section is not intended by itself, to create any additional obligations not otherwise imposed by this standard nor detract from any existing obligation.

(u) *Startup dates*—(1) *General.* The startup dates of requirements of this standard shall be the effective date of this standard unless another startup date is provided for either in other paragraphs of this section or in this paragraph.

(2) *Monitoring.* Initial monitoring shall be commenced on August 1, 1978, and shall be completed by September 15, 1978.

(3) *Regulated areas.* Regulated areas required to be established as a result of initial monitoring shall be set up as soon as possible after the results of that monitoring is known and no later than October 1, 1978.

(4) *Compliance program.* The written program required by paragraph (g)(4) as a result of initial monitoring shall be made available for inspection and copying as soon as possible and no later than December 1, 1978.

(5) *Hygiene and lunchroom facilities.* Construction plans for changerooms, showers, lavatories, and lunchroom facilities shall be completed no later than December 1, 1978, and these facilities shall be constructed and in use no later than July 1, 1979. However, if as part of the compliance plan it is predicted by an independent engineering firm that engineering controls and work practices will reduce exposures below the permissible exposure limit by December 31, 1979, for affected employees, then such facilities need not be completed until 1 year after the engineering controls are completed or December 31, 1980, whichever is earlier, if such controls have not in fact succeeded in reducing exposure to below the permissible exposure limit.

(6) *Summary of startup dates set forth elsewhere in this standard.*

STARTUP DATES

August 1, 1978—Respirator use over 500 $\mu g/m^3$.

AS SOON AS POSSIBLE BUT NO LATER THAN

September 15, 1978—Completion of initial monitoring.
October 1, 1978—Complete establishment of regulated areas. Respirator use for employees exposed above 50 $\mu g/m^3$. Completion of initial training. Notification of use.
December 1, 1978—Respirator use over 10 $\mu g/m^3$. Completion of initial medical. Completion of compliance plan.
July 1, 1979—Completion of lunch rooms and hygiene facilities.
December 31, 1979—Completion of engineering controls.

All other requirements of the standard have as their startup date August 1, 1978.

APPENDIX A—INORGANIC ARSENIC SUBSTANCE INFORMATION SHEET

I. SUBSTANCE IDENTIFICATION

A. *Substance.* Inorganic Arsenic.

B. *Definition.* Copper acetoarsenite, arsenic and all inorganic compounds containing arsenic except arsine, measured as arsenic (As).

C. *Permissible Exposure Limit.* 10 micrograms per cubic meter of air as determined as an average over an 8-hour period. No employee may be exposed to any skin or eye contact with arsenic trichloride or to skin or eye contact likely to cause skin or eye irritation.

D. *Regulated Areas.* Only employees authorized by your employer should enter a regulated area.

II. HEALTH HAZARD DATA

A. *Comments.* The health hazard of inorganic arsenic is high.

B. *Ways in which the chemical affects your body.* Exposure to airborne concentrations of inorganic arsenic may cause lung cancer, and can be a skin irritant. Inorganic arsenic may also affect your body if swallowed. One compound in particular, arsenic trichloride, is especially dangerous because it can be absorbed readily through the skin. Because inorganic arsenic is a poison, you should wash your hands thoroughly prior to eating or smoking.

III. PROTECTIVE CLOTHING AND EQUIPMENT

A. *Respirators.* Respirators will be provided by your employer at no cost to you for routine use if your employer is in the process of implementing engineering and work practice controls or where engineering and work practice controls are not feasible or insufficient. You must wear respirators for non-routine activities or in emergency situations where you are likely to be exposed to levels of inorganic arsenic in excess of the permissible exposure limit. Since how well your respirator fits your face is very important, your employer is required to conduct fit tests to make sure the respirator seals properly when you wear it. These tests are simple and rapid and will be explained to you during training sessions.

B. *Protective clothing.* If you work in a regulated area, your employer is required to provide at no cost to you, and you must wear, appropriate, clean, protective clothing and equipment. The purpose of this equipment is to prevent you from bringing to your home arsenic-contaminated dust and to protect your body from repeated skin contact with inorganic arsenic likely to cause skin irritation. This clothing should include such items as coveralls or similar full-body clothing, gloves, shoes or coverlets, and aprons. Protective equipment should include face shields or vented goggles, where eye irritation may occur.

IV. HYGIENE FACILITIES AND PRACTICES

You must not eat, drink, smoke, chew gum or tobacco, or apply cosmetics in the regulated area, except that drinking water is permitted. If you work in a regulated area your employer is required to provide lunchrooms and other areas for these purposes.

If you work in a regulated area, your employer is required to provide showers, washing facilities, and change rooms. You must wash your face, and hands before eating and must shower at the end of the work shift. Do not take used protective clothing out of change rooms without your employer's permission. Your employer is required to provide for laundering or cleaning of your protective clothing.

V. SIGNS AND LABELS

Your employer is required to post warning signs and labels for your protection. Signs must be posted in regulated areas. The signs must warn that a cancer hazard is present, that only authorized employees may enter the area, and that no smoking or eating is allowed, and that respirators must be worn.

VI. MEDICAL EXAMINATIONS

If your exposure to arsenic is over the Action Level (5 $\mu g/m^3$)—(including all persons working in regulated areas) at least 30 days per year, or you have been exposed to arsenic for more than 10 years over the Action Level, your employer is required to provide you with a medical examination. The examination shall be every 6 months for employees over 45 years old or with more than 10 years exposure over the Action Level and annually for other covered employees. The medical examination must include a medical history; a chest x-ray; skin examination; nasal examination and sputum cytology exam for the early detection of lung cancer. The cytology exams are only included in the initial exam and examinations given after you are either 45 years or older or have 10 or more years employment over the Action Level. The examining physician will provide a written opinion to your employer containing the results of the medical exams. You should also receive a copy of this opinion. The physician must not tell your employer any conditions he detects unrelated to occupational exposure to arsenic but must tell you those conditions.

VII. OBSERVATION OF MONITORING

Your employer is required to monitor your exposure to arsenic and you or your representatives are entitled to observe the monitoring procedure. You are entitled to receive an explanation of the measurement procedure, and to record the results obtained. When the monitoring procedure is taking place in an area where respirators or personal protective clothing and equipment are required to be worn, you must also be provided with and must wear the protective clothing and equipment.

VIII. ACCESS TO RECORDS

You or your representative are entitled to records of your exposure to inorganic arsenic upon request to your employer. Your medical examination records can be furnished to your physician if you request your employer to provide them.

IX. TRAINING AND NOTIFICATION

Additional information on all of these items plus training as to hazards of exposure to inorganic arsenic and the engineering and work practice controls associated with your job will also be provided by your employer. If you are exposed over the permissible exposure limit, your employer must inform you of that fact and the actions he is taking to reduce your exposures.

APPENDIX B—SUBSTANCE TECHNICAL GUIDELINES

ARSENIC, ARSENIC TRIOXIDE, ARSENIC TRICHLORIDE (THREE EXAMPLES)

I. Physical and chemical properties

A. Arsenic (metal).

1. Formula: As.

2. Appearance: Gray metal.

3. Melting point: Sublimes without melting at 613C.

4. Specific Gravity: (H20 = 1):5.73.

5. Solubility in water: Insoluble.

B. Arsenic Trioxide.

1. Formula: As203, (As406).

2. Appearance: White powder.

3. Melting point: 315C.

4. Specific Gravity (H20 = 1):3.74.

5. Solubility in water: 3.7 grams in 100cc of water at 20c.

C. Arsenic Trichloride (liquid).

1. Formula: AsC13.

2. Appearance: Colorless or pale yellow liquid.

3. Melting point: −8.5C.

4. Boiling point: 130.2C.

5. Specific Gravity (H20 = 1):2.16 at 20C.

6. Vapor Pressure: 10mm Hg at 23.5C.

7. Solubility in Water: Decomposes in water.

II. Fire, explosion and reactivity data.

A. Fire: Arsenic, arsenic Trioxide and Arsenic Trichloride are nonflammable.

B. Reactivity:

1. Conditions Contributing to instability: Heat.

2. Incompatibility: Hydrogen gas can react with inorganic arsenic to form the highly toxic gas arsine.

III. Monitoring and Measurement Procedures

Samples collected should be full shift (at least 7-hour) samples. Sampling should be done using a personal sampling pump at a flow rate of 2 liters per minute. Samples should be collected on 0.8 micrometer pore size membrane filter (37mm diameter). Volatile arsenicals such as arsenic trichloride can be most easily collected in a midget bubbler filled with 15 ml. of 0.1 N NaOH.

The method of sampling and analysis should have an accuracy of not less than ±25 percent (with a confidence limit of 95 percent) for 10 micrograms per cubic meter of air (10 $\mu g/m^3$) and ±35 percent (with a confidence limit of 95 percent) for concentrations of inorganic arsenic between 5 and 10 $\mu g/m^3$.

APPENDIX C—MEDICAL SURVEILLANCE GUIDELINES

I. GENERAL

Medical examinations are to be provided for all employees exposed to levels of inorganic arsenic above the action level (5 $\mu g/m^3$) for at least 30 days per year (which would include among others, all employees, who work in regulated areas). Examinations are also to be provided to all employees who have had 10 years or more exposure above the action level for more than 30 days per year while working for the present or predecessor employer though they may no longer be exposed above the level.

An initial medical examination is to be provided to all such employees by December 1, 1978. In addition, an initial medical examination is to be provided to all employees who are first assigned to areas in which worker exposure will probably exceed 5 $\mu g/m^3$ (after the effective date of this standard) at the time of initial assignment. In addition to its immediate diagnostic usefulness, the initial examination will provide a baseline for comparing future test results. The initial examination must include as a minimum the following elements:

(1) A work and medical history, including a smoking history, and presence and degree of respiratory symptoms such as breathlessness, cough, sputum production, and wheezing;

(2) A 14" by 17" posterior-anterior chest X-ray and an International Labor Office UICC/Cincinnati (ILO U/C) rating;

(3) A nasal and skin examination;

(4) A Sputum Cytology examination; and

(5) Other examinations which the physician believes appropriate because of the employee's exposure to inorganic arsenic or because of required respirator use.

Periodic examinations are also to be provided to the employees listed above. The periodic examinations shall be given annually for those covered employees 45 years of age or less with fewer than 10 years employment in areas where employee exposure exceeds the action level (5 $\mu g/m^3$). Periodic examinations need not include sputum cytology and only an updated medical history is required.

Periodic examinations for other covered employees, shall be provided every six (6) months. These examinations shall include all tests required in the initial examination, except that the medical history need only be updated.

The examination contents are minimum requirements. Additional tests such as lateral and oblique X-rays or pulmonary function tests may be useful. For workers exposed to three arsenicals which are associated with lymphatic cancer, copper acetoarsenite, potassium arsenite, or sodium arsenite the examination should also include palpation of superficial lymph nodes and complete blood count.

II. NONCARCINOGENIC EFFECTS

The OSHA standard is based on minimizing risk of exposed workers dying of lung cancer from exposure to inorganic arsenic. It will also minimize skin cancer from such exposures.

The following three sections quoted from "Occupational Diseases: A Guide to Their Recognition", Revised Edition, June 1977, National Institute for Occupational Safety and Health is included to provide information on the nonneoplastic effects of exposure to inorganic arsenic. Such effects should not occur if the OSHA standards are followed.

A. *Local*—Trivalent arsenic compounds are corrosive to the skin. Brief contact has no effect but prolonged contact results in a local hyperemia and later vesicular or pustular eruption. The moist mucous membranes are most sensitive to the irritant action. Conjunctiva, moist and macerated areas of skin, the eyelids, the angles of the ears, nose, mouth, and respiratory mucosa are also vulnerable to the irritant effects. The wrists are common sites of dermatitis, as are the genitalia if personal hygiene is poor. Perforations of the nasal septum may occur. Arsenic trioxide and pentoxide are capable of producing skin sensitization and contact dermatitis. Arsenic is also capable of producing keratoses, especially of the palms and soles.

B. *Systemic*—The acute toxic effects of arsenic are generally seen following ingestion of inorganic arsenical compounds. This rarely occurs in an industrial setting. Symptoms develop within ½ to 4 hours following ingestion and are usually characterized by constriction of the throat followed by dysphagia, epigastric pain, vomiting, and watery diarrhea. Blood may appear in vomitus and stools. If the amount ingested is sufficiently high, shock may develop due to severe fluid loss, and death may ensue in 24 hours. If the acute effects are survived, exfoliative dermatitis and peripheral neuritis may develop.

Cases of acute arsenical poisoning due to inhalation are exceedingly rare in industry. When it does occur, respiratory tract symptoms—cough, chest pain, dyspnea—giddiness, headache, and extreme general weakness precede gastrointestinal symptoms. The acute toxic symptoms of trivalent arsenical poisoning are due to severe inflammation of the mucous membranes and greatly increased permeability of the blood capillaries.

Chronic arsenical poisoning due to ingestion is rare and generally confined to patients taking prescribed medications. However, it can be a concomitant of inhaled inorganic arsenic from swallowed sputum and improper eating habits. Symptoms are weight loss, nausea and diarrhéa alternating with constipation, pigmentation and eruption of the skin, loss of hair, and peripheral neuritis. Chronic hepatitis and cirrhosis have been described. Polyneuritis may be the salient feature, but more frequently there are numbness and parasthenias of "glove and stocking" distribution. The skin lesions are usually melanotic and keratotic and may occasionally take the form of an intradermal cancer of the squamous cell type, but without infiltrative properties. Horizontal white lines (striations) on the fingernails and toenails are commonly seen in chronic arsenical poisoning and are considered to be a diagnostic accompaniment of arsenical polyneuritis.

Inhalation of inorganic arsenic compounds is the most common cause of chronic poisoning in the industrial situation. This condition is divided into three phases based on signs and symptoms.

First Phase: The worker complains of weakness, loss of appetite, some nausea, occasional vomiting, a sense of heaviness in the stomach, and some diarrhea.

Second Phase: The worker complains of conjunctivitis, a catarrhal state of the mucous membranes of the nose, larynx, and respiratory passage. Coryza, hoarseness, and mild tracheobronchitis may occur. Perforation of the nasal septum is common, and is probably the most typical lesion of the upper respiratory tract in occupational exposure to arsenical dust. Skin lesions, eczematoid and allergic in type, are common.

Third Phase: The worker complains of symptoms of peripheral neuritis, initially of hands and feet, which is essentially sensory. In more severe cases, motor paralyses occur; the first muscles affected are usually the toe extensors and the peronei. In only the most severe cases will paralysis of flexor muscles of the feet or of the extensor muscles of hands occur.

Liver damage from chronic arsenical poisoning is still debated, and as yet the question is unanswered. In cases of chronic and acute arsenical poisoning, toxic effects to the myocardium have been reported based on EKG changes. These findings, however, are now largely discounted and the EKG changes are ascribed to electrolyte disturbances concomitant with arsenicalism. Inhalation of arsenic trioxide and other inorganic arsenical dusts does not give rise to radiological evidence or pneumoconiosis. Arsenic does have a depressant effect upon the bone marrow, with disturbances of both erythropoiesis and myelopoiesis.

BIBLIOGRAPHY

Dinman, B. D. 1960. Arsenic; chronic human intoxication. J. Occup. Med. 2:137.

Elkins, H. B. 1959. The Chemistry of Industrial Toxicology, 2nd ed. John Wiley and Sons, New York.

Holmquist, L. 1951. Occupational arsenical dermatitis; a study among employees at a copper-ore smelting works including investigations of skin reactions to contact with arsenic compounds. Acta. Derm. Venereol. (Supp. 26) 31:1.

Pinto, S. S., and C. M. McGill. 1953. Arsenic trioxide exposure in industry. Ind. Med. Surg. 22:281.

Pinto, S. S., and K. W. Nelson. 1976. Arsenic toxicology and industrial exposure. Annu. Rev. Pharmacol. Toxicol. 16:95.

Vallee, B. L., D. D. Ulmer, and W. E. C. Wacker. 1960. Arsenic toxicology and biochemistry. AMA Arch. Indust. Health 21:132.

III. SPUTUM CYTOLOGY

Sputum can be collected by aerosol inhalation during the medical exam or by spontaneous early morning cough at home. Sputum is induced by transoral inhalation of an aerosolized solution of eight per cent (8 percent) sodium chloride in water. After inhaling as few as three to five breaths the subject usually yields an adequate sputum. All sputum should be collected directly into sixty percent (60 percent) alcohol.

Scientific evidence suggests that chest X-rays and sputum cytology should be used together as screening tests for lung tests for lung cancer in high risk populations such as workers exposed to inorganic arsenic. The tests are to be performed every six months on workers who are 45 years of age or older or have worked in the regulated area for 10 or more years. Since the tests seem to be complementary, it may be advantageous to alternate the test procedures. For instance, chest X-rays could be obtained in June and December and sputum cytologies could be obtained in March and September. Facilities for providing necessary diagnostic investigation should be readily available as well as chest physicians, surgeons, radiologists, pathologists and immunotherapists to provide any necessary treatment services.

(Pub. L. 91-596; Secs. 4, 6, 8, 84 Stat. 1592, 1593, 1599 (29 U.S.C. 653, 655, 657); Secretary of Labor's Order 8-76 (41 FR 25059); 29 CFR Part 1911).

§ 1910.1028 Benzene.

(a) *Scope and application.* (1) This section applies to each place of employment where benzene is produced, reacted, released, packaged, repackaged, stored, transported, handled, or used.

(2) This section does not apply to: (i) The storage, transportation, distribution, dispensing, sale or use as fuel of gasoline, motor fuels, or other fuels subsequent to discharge from bulk terminals; or

(ii) The storage, transportation, distribution or sale of benzene in intact containers sealed in such a manner as to contain benzene vapors or liquid, except for the requirements of paragraph (k) (2), (3), (4), and (5), and paragraph (j) of this section.

(b) *Definitions.* "Action level" means an airborne concentration of benzene of 0.5 ppm, averaged over an 8-hour work day.

"Assistant Secretary" means the Assistant Secretary of Labor for Occupational Safety and Health, U.S. Department of Labor, or designee.

"Authorized person" means any person required by his duties to enter a regulated area and authorized to do so by his employer, by this section or by the Occupational Safety and Health Act of 1970. "Authorized person" includes a representative of employees who is designated to observe monitoring and measuring procedures under paragraph (m) of this section.

"Benzene" (C_6H_6) (CAS Registry No. 00071432) means solid, liquefied or gaseous benzene. It includes mixtures of liquids containing benzene and the vapors released by these liquids.

"Bulk terminal" means a facility which is used for the storage and distribution of gasoline, motor fuels or other fuels and which receives its petroleum products by pipeline, barge or marine tanker.

"Director" means the Director of the National Institute for Occupational Safety and Health, U.S. Department of Health, Education, and Welfare, or designee.

"Emergency" means any occurrence such as, but not limited to, equipment failure, rupture of containers, or failure of control equipment which may, or does, result in a massive release of benzene.

"OSHA Area Office" means the office of the Occupational Safety and Health Administration having jurisdiction over the geographic area where the affected workplace is located.

(c) *Permissible exposure limits*—(1) *Inhalation*—(i) *Time-weighted average limit (TWA).* The employer shall assure that no employee is exposed to an airborne concentration of benzene in excess of 1 part benzene per million parts of air (1 ppm) as an 8-hour time-weighted average.

(ii) *Ceiling limit.* The employer shall assure that no employee is exposed to an airborne concentration of benzene in excess of 5 ppm as averaged over any 15 minute period.

(2) *Dermal and eye exposure limit.* The employer shall assure that no employee is exposed to eye contact with liquid benzene; or to skin contact with liquid benzene, unless the employer can establish that the skin contact is an isolated instance.

(d) *Regulated areas.* (1) The employer shall establish, within each place of employment, regulated areas where benzene concentrations are in excess of the permissible airborne exposure limit.

(2) The employer shall limit access to regulated areas to authorized persons.

(3) *Notification of regulated areas.* Within 30 days following the establishment of a regulated area, the employer shall report the following information to the OSHA Area Office:

(i) The address of each establishment which has one or more regulated areas;

(ii) The locations, within the establishment, of each regulated area;

(iii) A brief description of each process or operation which results in employee exposure to benzene in regulated areas; and

(iv) The number of employees engaged in each process or operation within each regulated area which results in exposure to benzene, and an estimate of the frequency and degree of exposure within each regulated area.

(e) *Exposure monitoring and measurements*—(1) *General.* (i) Determinations of airborne exposure levels shall be made from air samples that are representative of each employee's exposure to benzene over an eight (8) hour period.

(ii) For the purposes of this section, employee exposure is that exposure which would occur if the employee were not using a respirator.

(2) *Initial monitoring.* (i) Each employer, who has a place of employment where benzene is produced, reacted, released, packaged, repackaged, stored, transported, handled or used shall monitor each of these workplaces and work operations to accurately determine the airborne concentrations of benzene to which employees may be exposed.

(ii) The initial monitoring required under paragraph (e)(2)(i) of this section shall be conducted and the results obtained within 30 days of the effective date of this section. Where the employer has monitored after January 4, 1977 and the monitoring satisfies the accuracy requirements of paragraph (e)(6) of the section, the employer may rely on such earlier monitoring to satisfy the requirements of paragraph (e)(2)(i) of this section, unless there has been a production, process, personnel or control change which may have resulted in new or additional exposures to benzene or the employer has any other reason to suspect a change which may have resulted in new or additional exposures to benzene; and provided that the employer maintains a record of the monitoring in accordance with paragraph (l)(1) and notifies each employee in accordance with paragraph (e)(5).

(3) *Frequency*—(i) *Measurements below the action level.* If the measurements conducted under paragraph (e)(2)(i) of this section reveal employee exposure to be below the action level, the measurements need not be repeated, except as otherwise provided in paragraph (e)(4) of this section.

(ii) *Measurements at or above the action level.* If the measurements reveal employee exposure to be at or in excess of the action level, but below the permissible exposure limit, the employer shall repeat the monitoring at least quarterly. The employer shall continue these quarterly measurements until at least two consecutive measurements, taken at least seven (7) days apart, are below the action level, and thereafter the employer may discontinue monitoring, except as provided in paragraph (e)(4) of this section.

(iii) *Measurements above the permissible exposure limit.* If the measurements reveal employee exposure to be in excess of the permissible exposure limits, the employer shall repeat the measurements at least monthly. The employer shall continue these monthly measurements until at least two consecutive measurements, taken at least seven (7) days apart, are below the permissible exposure limits, and thereafter the employer shall monitor at least quarterly.

(4) *Additional monitoring.* (i) Whenever there has been a production, process, personnel or control change which may result in new or additional exposure to benzene or whenever the employer has any other reason to suspect a change which may result in new or additional exposures to benzene, the employer shall repeat the monitoring which is required by paragraph (e)(2)(i) of this section.

(ii) Whenever spills, leaks, ruptures or other breakdowns occur, the employer shall repeat the monitoring which is required by paragraph (e)(2)(i) after cleanup of the spill or repair of the leak, rupture or other breakdown.

(5) *Employee notification.* (i) Within 5 working days after the receipt of the measurement results, the employer shall notify each employee in writing of the exposure measurements which represent that employee's exposures.

(ii) Where the results indicate that the employee's exposure exceeds the permissible exposure limits, the notification shall also include the corrective action being taken or to be taken by the employer to reduce exposure to or below the permissible exposure limit.

(6) *Accuracy of measurement.* The employer shall use a method of measurement which has an accuracy, to a confidence level of 95 percent, of not less than plus or minus 25 percent for concentrations of benzene greater than or equal to 1 ppm.

(f) *Methods of compliance*—(1) *Priority of compliance methods.* The employer shall institute engineering and work practice controls to reduce and maintain employee exposures to benzene at or below the permissible exposure limits, except to the extent that the employer establishes that these controls are not feasible. Where feasible engineering and work practice controls are not sufficient to reduce employee exposure to or below the permissible exposure limits, the employer shall nonetheless use them to reduce exposures to the lowest level achievable by these controls, and shall supplement them by the use of respiratory protection.

(2) *Compliance program.* (i) The employer shall establish and implement a

written program to reduce exposures to or below the permissible exposure limits solely by means of engineering and work practice controls required by paragraph (f)(1) of this section.

(ii) The written program shall include a schedule for development and implementation of the engineering and work practice controls. These plans shall be revised at least every six months to reflect the current status of the program.

(iii) Written plans for these compliance programs shall be submitted, upon request, to the Assistant Secretary and the Director, and shall be available at the worksite for examination and copying by the Assistant Secretary, the Director, and the employees or their authorized representatives.

(iv) The employer shall institute and maintain at least the controls described in his most recent written compliance program.

(g) *Respiratory protection*—(1) *General.* Where respiratory protection is required under this section, the employer shall select, provide and assure the use of respirators. Respirators shall be used in the following circumstances:

(i) During the time period necessary to install or implement feasible engineering and work practice controls;

(ii) During maintenance and repair activities in which engineering and work practice controls are not feasible;

(iii) In work situations where feasible engineering and work practice controls are not yet sufficient to reduce exposure to or below the permissible exposure limits; or

(iv) In emergencies.

(2) *Respirator selection.* (i) Where respiratory protection is required under this section, the employer shall select and provide, at no cost to the employee, the appropriate respirator from Table 1 below and shall assure that the employee uses the respirator provided.

(ii) The employer shall select respirators from among those approved by the National Institute for Occupational Safety and Health under the program of 30 CFR Part 11.

(3) *Respirator program.* The employer shall institute a respiratory protection program in accordance with § 1910.134 (b), (d), (e) and (f).

(4) *Respirator use.* (i) Where air purifying respirators (cartridge, canister, or gas mask) are used, the employer shall, except as provided in paragraph (g)(4)(ii) of this section, replace the air-purifying canisters or cartridges prior to the expiration of their service life or the end of shift in which they are first used, whichever occurs first.

TABLE I.—*Respiratory protection for benzene*

Airborne concentration of benezene or condition of use	*Respirator type*
(a) Less than or equal to 10 p/m.	(1) Any chemical cartridge respirator with organic vapor cartridge; or (2) Any supplied air respirator.
(b) Less than or equal to 50 p/m.	(1) Any chemical cartridge respirator with organic vapor cartridge and full facepiece; (2) Any supplied air respirator with full facepiece; (3) Any organic vapor gas mask; or (4) Any self-contained breathing apparatus with full facepiece.
(c) Less than or equal to 1,000 p/m.	(1) Supplied air respirator with half mask in positive pressure mode.
(d) Less than or equal to 2,000 p/m.	(1) Supplied air respirator with full facepiece, helmet, or hood, in positive pressure mode.
(e) Less than or equal to 10,000 p/m.	(1) Supplied air respirator and auxiliary self-contained facepiece in positive pressure mode; or (2) Open circuit self-contained breathing apparatus with full facepiece in positive pressure mode.
(f) Escape	(1) Any organic vapor gas mask; or (2) Any self-contained breathing apparatus with full facepiece.

(ii) Where a cartridge or canister of an air purifying respirator has an end of service life indicator certified by the National Institute for Occupational Safety and Health for benzene, the employer may permit its use until such time as the indicator shows the end of service life.

(iii) The employer shall assure that the respirator issued to the employee exhibits minimum facepiece leakage and that the respirator is properly fitted

(iv) The employer shall allow each employee who wears a respirator to wash his or her face and respirator facepiece to prevent skin irritation associated with respirator use.

(h) *Protective clothing and equipment.* Where eye or dermal exposure may occur, the employer shall provide, at no cost to the employee, and assure that the employee wears impermeable protective clothing and equipment to protect the area of the body which may come in contact with liquid benzene. Eye and face protection shall meet the requirements of § 1910.133 of this Part.

(i) *Medical Surveillance*—(1) *General.* (i) The employer shall make available a medical surveillance program for employees who are or may be exposed to benzene at or above the action level and employees who are subjected to an emergency.

(ii) The employer shall assure that all medical examinations and procedures are performed by or under the supervision of a licensed physician, and provided without cost to the employee.

(2) *Initial examinations.* (i) Within thirty days of the effective date of this section, or before the time of initial assignment, the employer shall provide each employee who is or may be exposed to benzene at or above the action level with a medical examination, including at least the following elements:

(*a*) A history which includes past work exposure to benzene or any other hematologic toxins; a family history of blood dyscrasias including hematological neoplasms; a history of blood dyscrasias including genetically related hemoglobin alterations, bleeding abnormalities, abnormal function of formed blood elements; a history of renal or liver dysfunction; a history of drugs routinely taken, alcoholic intake and systemic infections; a history of exposure to marrow toxins outside of the current work situation, including volatile cleaning agents and insecticides;

(*b*) Laboratory tests, including a complete blood count with red cell count, white cell count with differential, platelet count, hematocrit, hemoglobin and red cell indices (MCV, MCH, MCHC), serum bilirubin and reticulocyte count; and

(*c*) Additional tests where, in the opinion of the examining physician, alterations in the components of the blood are related to benzene exposure.

(ii) No medical examination is required to satisfy the requirements of paragraph (i)(2)(i) of this section if adequate records show that the employee has been examined in accordance with the procedures of paragraph (i)(2)(i) of this section within the previous six months.

(3) *Information provided to the physician.* The employer shall provide the following information to the examining physician for each examination under this section:

(i) A copy of this regulation and its appendices;

(ii) A description of the affected employee's duties as they relate to the employee's exposure;

(iii) The employee's representative exposure level or anticipated exposure level;

(iv) A description of any personal protective equipment used or to be used; and

(v) Information from previous medical examinations of the affected employee which is not readily available to the examining physican.

(4) *Physician's written opinions.* (i) For each examination under this section, the employer shall obtain and provide the employee with a copy of the examining physician's written opinion containing the following:

(*a*) The results of the medical examination and tests;

(*b*) The physician's opinion concerning whether the employee has any detected medical conditions which would place the employee's health at increased risk of material impairment from exposure to benzene;

(*c*) The physician's recommended limitations upon the employee's exposure to benzene or upon the employee's use of protective clothing or equipment and respirators.

(ii) The written opinion obtained by the employer shall not reveal specific findings or diagnoses unrelated to occupational exposures.

(5) *Periodic examinations.* (i) The employer shall provide each employee covered under paragraph (i)(2) of this section with a medical examination at least semi-annually following the initial examination. These periodic examinations shall include at least the following elements:

(*a*) A brief history regarding any new exposure to potential marrow toxins, changes in drug and alcohol intake and the appearance of physical symptoms relating to blood disorders;

(*b*) A complete blood count with red cell count, white cell count with differential, platelet count, hemoglobin, hematocrit and red cell indices (MCV, MCH, MCHC); and

(*c*) Additional tests where in the opinion of the examining physician, alterations in the components of the blood are related to benzene exposure.

(ii) Where the employee develops signs and symptoms commonly associated with toxic exposure to benzene, the employer shall provide the employee with a medical examination which shall include those elements considered appropriate by the examining physician.

(6) *Emergency situations.* If the employee is exposed to benzene in an emergency situation, the employer shall provide the employee with a urinary phenol test at the end of the employee's shift. The urine specific gravity shall be corrected to 1.024. If the result of the urinary phenol test is below 75 mg phenol/L of urine, no further testing is required. If the result of the urinary phenol test is equal to or greater than 75 mg phenol/L of urine, the employer shall provide the employee with a complete blood count including a red cell count, white cell count with differential, and platelet count as soon as practicable, and shall provide these same counts one month later.

(7) *Special examinations.* (i) Where the results of any tests required by this section reveal that any of the following conditions exist, the employer shall have the test results of the employee evaluated by a hematologist:

(*a*) The red cell count, hemoglobin or platelet count varies more than 15 percent above or below the employee's most recent values;

(*b*) The red cell count is below 4.4 million or above 6.3 million per mm^3, (for males), or below 4.2 million or above 5.5 million per mm^3 (for females);

(*c*) The hemoglobin is below 14 grams percent or above 18 grams percent (for males) or below 12 grams percent or above 16 grams percent (for females);

(*d*) The white cell count is below 4,200 or above $10{,}000/mm^3$;

(*e*) The thrombocyte count is below 140×10^3 cells per mm^3 or above 440×10^3 cells per mm^3.

(ii) In addition to the information required to be provided to the physician under paragraph (i)(3) of this section, the employer shall provide the hematologist with the medical record required to be maintained by paragraph (l)(2) of this section.

(iii) The hematologist's evaluation shall include a determination as to the need for additional tests, and the employer shall assure that these tests are provided.

(j) *Employee information and training*—(1) *Training program.* (i) The employer shall institute a training program for all employees assigned to workplaces where benzene is produced, reacted, released, packaged, repackaged, stored, transported, handled or used and shall assure that each employee assigned to these workplaces is informed of the following:

(*a*) The information contained in Appendices A and B of this section;

(*b*) The quantity, location, manner of use, release, or storage of benzene and the specific nature of operations which could result in exposure above the permissible exposure limits as well as necessary protective steps;

(*c*) The purpose, proper use, and limitations of personal protective equipment and clothing required by paragraph (h) of this section and of respiratory devices required by paragraph (g) of this section and § 1910.134 (b), (d), (e), and (f);

(*d*) The purpose and a description of the medical surveillance program required by paragraph (i) of this section and the information contained in Appendix C of this section; and

(*e*) The contents of this standard.

(ii) The training program required under paragraph (j)(1)(i) of this section shall be provided within 90 days of the effective date of this section or at the time of initial assignment to workplaces where benzene is produced, reacted, released, packaged, repackaged, stored, transported, handled or used, and at least annually thereafter.

(2) *Access to training materials.* (i) The employer shall make a copy of this standard and its Appendices readily available to all affected employees.

(ii) The employer shall provide, upon request, all materials relating to the employee information and training program to the Assistant Secretary and the Director.

(k) *Signs and labels.* (1) The employer shall post signs in regulated areas bearing the following legend:

DANGER

BENZENE

CANCER HAZARD

FLAMMABLE—NO SMOKING

AUTHORIZED PERSONNEL ONLY

RESPIRATOR REQUIRED

(2) The employer shall assure that caution labels are affixed to all containers of benzene and of products containing any amount of benzene, except:

(i) Pipelines, and

(ii) Transport vessels or vehicles carrying benzene or benzene products in sealed intact containers.

(3) The employer shall assure that the caution labels remain affixed when the benzene or products containing benzene are sold, distributed or otherwise leave the employer's workplace.

(4) The caution labels required by paragraph (k)(2) of this section shall be readily visible and legible. The labels shall bear the following legend:

CAUTION

CONTAINS BENZENE

CANCER HAZARD

(5) The employer shall assure that no statement which contradicts or detracts from the information required by paragraphs (k)(1) and (k)(4) of this section appears on or near any required sign or label.

(l) *Recordkeeping*—(1) *Exposure measurements.* (i) The employer shall establish and maintain an accurate record of all measurements required by paragraph (e) of this section.

(ii) This record shall include:

(*a*) The dates, number, duration, and results of each of the samples taken, including a description of the procedure used to determine representative employee exposures;

(*b*) A description of the sampling and analytical methods used;

(*c*) Type of respiratory protective devices worn, if any; and

(*d*) Name, social security number, and job classification of the employee monitored and all other employees whose exposure the measurement is intended to represent.

(iii) The employer shall maintain this record for at least 40 years or the duration of employment plus 20 years, whichever is longer.

(2) *Medical surveillance.* (i) The employer shall establish and maintain an accurate record for each employee subject to medical surveillance required by paragraph (i) of this section.

(ii) This record shall include:

(*a*) The name, and social security number of the employee;

(*b*) A copy of the physicians' written opinions, including results of medical examinations and all tests, opinions and recommendations;

(*c*) The peripheral blood smear slides of the initial test, the most recent test, and any test demonstrating hematological abnormalities related to benzene exposure;

(*d*) Any employee medical complaints related to exposure to benzene;

(*e*) A copy of this standard and its appendices, except that the employer may keep one copy of the standard and its appendices for all employees provided that he references the standard and its appendices in the medical surveillance record of each employee;

(*f*) A copy of the information provided to the physician as required by paragraphs (i)(3)(ii) through (i)(3)(v) of this section; and

(*g*) A copy of the employee's medical and work history related to exposure to benzene or any other hematologic toxins.

(iii) The employer shall maintain this record for at least 40 years or for the duration of employment plus 20 years, whichever is longer.

(3) *Availability.* (i) The employer shall assure that all records required to be maintained by this section shall be made available upon request to the Assistant Secretary and the Director for examination and copying.

(ii) The employer shall assure that employee exposure measurement records as required by this section be made available for examination and copying to affected employees or their designated representatives.

(iii) The employer shall assure that former employees and the former employees' designated representatives have access to such records as will indicate the former employee's own exposure to benzene.

(iv) The employer shall assure that employee medical records required to be maintained by this section be made available upon request for examination and copying to the employee or former employee or to a physician or other individual designated by the affected employee or former employee.

(4) *Transfer of records.* (i) When the employer ceases to do business, the successor employer shall receive and retain all records required to be maintained by paragraph (l) of this section for the prescribed period.

(ii) When the employer ceases to do business and there is no successor employer to receive and retain the records for the prescribed period, the employer shall transmit these records by mail to the Director.

(iii) At the expiration of the retention period for the records required to be maintained under paragraph (l) of this section, the employer shall transmit these records by mail to the Director.

(m) *Observation of monitoring*—(1) *Employee observation.* The employer shall provide affected employees, or their designated representatives, an opportunity to observe any measuring or monitoring of employee exposure to benzene conducted pursuant to paragraph (e) of this section.

(2) *Observation procedures.* (i) When observation of the measuring or monitoring of employee exposure to benzene requires entry into areas where the use of protective clothing and equipment or respirators is required, the employer shall provide the observer with personal protective clothing and equipment or respirators required to be worn by employees working in the area, assure the use of such clothing and equipment or respirators, and require the observer to comply with all other applicable safety and health procedures.

(ii) Without interfering with the measurement, observers shall be entitled to:

(*a*) Receive an explanation of the measurement procedures;

(*b*) Observe all steps related to the measurement of airborne concentrations of benzene performed at the place of exposure; and

(*c*) Record the results obtained.

(n) *Appendices.* The information contained in the appendices is not intended, by itself, to create any additional obligations not otherwise imposed or to detract from any existing obligations.

APPENDIX A—SUBSTANCE SAFETY DATA SHEET, BENZENE

I. SUBSTANCE IDENTIFICATION

A. *Substance.* Benzene.

B. *Permissible Exposure:* Except as to the use as fuels of gasoline, motor fuels and other fuels subsequent to discharge from bulk terminals.

1. *Airborne.* 1 part of benzene vapor per million parts of air (1 ppm); time-weighted average (TWA) for an 8-hour workday for a 40-hour week, with a 15 minute ceiling concentration of 5 ppm.

2. *Dermal.* Eye contact and skin contact with liquid benzene shall be prohibited.

C. *Appearance and odor.* Benzene is a clear, colorless liquid with a pleasant, sweet odor. The odor of benzene does not provide adequate warning of its hazard.

II. HEALTH HAZARD DATA

A. *Ways in which benzene affects your health.* Benzene can affect your health if you inhale it, or if it comes in contact with your skin or eyes. Benzene is also harmful if you happen to swallow it.

B. *Effects of overexposure.* 1. Short-term (acute) overexposure: If you are overexposed to high concentrations of benzene, well above the levels where its odors are first recognizable, you may feel breathless, irritable, euphoric, or giddy; you may experience irritation in eyes, nose, and respiratory tract. You may develop a headache, feel dizzy, nauseous, or experience unsteadiness in walking. Severe exposures may lead to convulsions.

2. *Long-term (chronic) exposure.* Repeated or prolonged exposure to benzene, even at relatively low concentrations, may result in various blood disorders, ranging from anemia to leukemia, an irreversible, fatal disease. Many blood disorders associated with benzene exposure may occur without physical symptoms.

III. PROTECTIVE CLOTHING AND EQUIPMENT

A. *Respirators.* Respirators are required for those operations in which engineering controls or work practice controls are not feasible to reduce exposure to the permissible level. If respirators are worn, they must have a National Institute for Occupational Safety and Health (NIOSH) seal of approval, and cartridges or canisters must be replaced before the end of their service life, or the end of the shift, whichever occurs first. If you experience difficulty breathing while wearing a respirator, tell your employer.

B. *Protective Clothing.* You must wear impervious protective clothing (such as boots, gloves, sleeves, aprons, etc.) over any parts of your body that could be exposed to liquid benzene.

C. *Eye and Face Protection.* You must wear splash proof safety goggles if it is possible that benzene may get into your eyes. In addition, you must wear a face shield if your face could be splashed with benzene liquid.

IV. EMERGENCY AND FIRST AID PROCEDURES

A. *Eye and face exposure.* If benzene is splashed in your eyes, wash it out immediately with large amounts of water. Call a doctor as soon as possible.

B. *Skin exposure.* If benzene is spilled on your clothing or skin, remove the contaminated clothing and wash the exposed skin with large amounts of water and soap immediately. Wash contaminated clothing before you wear it again.

C. *Breathing.* If you or any other person breathes in large amounts of benzene, get the exposed person to fresh air at once. Apply artificial respiration if breathing has stopped. Call for medical assistance or a doctor as soon as possible.

D. *Swallowing.* If benzene has been swallowed and the patient is conscious, do not induce vomiting. Call for medical assistance or a doctor immediately.

V. MEDICAL REQUIREMENTS

If you are exposed to benzene at a concentration at or above 0.5 ppm on an 8-hour time-weighted average, your employer is required to provide a medical history and laboratory tests within 30 days of the effective date of this standard and semiannually thereafter if you are continually exposed at or above 0.5 ppm. These tests shall be provided without cost to you. In addition, if you are accidentally exposed to benzene (either by ingestion, inhalation, or skin/eye contact) under conditions known or suspected to be toxic exposure to benzene, your employer is required to make special tests available to you.

VI. OBSERVATION OF MONITORING

Your employer is required to perform measurements that are representative of your exposure to benzene and you or your designated representative are entitled to observe the monitoring procedure. You are entitled to receive an explanation of the measurement procedure, observe the steps taken in the measurement procedure, and to record the results obtained. When the monitoring procedure is taking place in an area where respirators or personal protective clothing and equipment are required to be worn, you or your representative must also be provided with, and must wear the protective clothing and equipment.

VII. ACCESS TO RECORDS

You or your representative are entitled to see the records of measurements of your exposure to benzene upon request to your employer. Your medical examination records can be furnished to your physician or designated representative upon request to your employer.

VIII. PRECAUTIONS FOR SAFE USE, HANDLING AND STORAGE

Benzene liquid is highly flammable. It should be stored in tightly closed containers in a cool, well ventilated area. Benzene vapor may form explosive mixtures in air. All sources of ignition must be controlled. Use nonsparking tools when opening or closing benzene containers. Ground or bond metal benzene containers. Fire extinguishers, where provided, must be readily available. Know where they are located and how to operate them. Smoking is prohibited in areas where benzene is used or stored. Ask your supervisor where benzene is used in your work area and for additional plant safety rules.

APPENDIX B—SUBSTANCE TECHNICAL GUIDELINES, BENZENE

I. PHYSICAL AND CHEMICAL DATA

A. *Substance identification.*

1. Synonyms: Benzol, benzole, coal naptha, cyclohexatriene, phene, phenyl hydride, pyrobenzol. (Benzin, petroleum benzin, and Benzine do not contain benzene.)

2. Formula: C_6H_6 (CAS Registry Number: 000071432)

B. *Physical data.*

1. Boiling Point (760 mm Hg); 80.1C (176F)

2. Specific Gravity (water = 1): 0.879

3. Vapor Density (air = 1): 2.7

4. Melting Point: 5.5C (42F)

5. Vapor Pressure at 20 C (68F): 75 mm Hg

6. Solubility in Water: .06%

7. Evaporation Rate (ether = 1): 2.8

8. Appearance and Odor: Clear, colorless liquid with a distinctive sweet odor.

II. FIRE, EXPLOSION, AND REACTIVITY HAZARD DATA

A. *Fire.*

1. Flash Point (closed cup): −11 C (12F)

2. Autoignition Temperature: 580 C (1076F)

3. Flammable Limits in Air, % by Volume: Lower 1.3%, Upper: 7.5%

4. Extinguishing Media: Carbon dioxide, dry chemical, or foam.

5. Special Fire-Fighting Procedures: Do not use solid stream of water, since stream will scatter and spread fire. Water spray can be used to keep fire exposed containers cool.

6. Unusual fire and explosion hazards: Benzene is a flammable liquid. Its vapors can form explosive mixtures. All ignition sources must be controlled when benzene is used, handled, or stored. Where liquid or vapor may be released, such areas shall be considered as hazardous locations. Benzene vapors are heavier than air; thus the vapors may travel along the ground and be ignited by open flames or sparks at locations remote from the site at which benzene is handled.

7. Benzene is classified as a *1 B flammable liquid* for the purpose of conforming to the requirements of 29 CFR 1910.106. A concentration exceeding *3250 ppm* is considered a potential fire explosion hazard. Locations where benzene may be present in quantities sufficient to produce explosive or ignitable mixtures are considered *Class I Group D* for the purposes of conforming to the requirement of 29 CFR 1910.309.

B. *Reactivity.*

1. Conditions contributing to instability: Heat.

2. Incompatibility: Heat and oxidizing materials.

3. Hazardous decomposition products: Toxic gases and vapors (such as carbon monoxide).

III. SPILL AND LEAK PROCEDURES

A. *Steps to be taken if the material is released or spilled.* As much benzene as possible should be absorbed with suitable materials, such as dry sand or earth. That remaining must be flushed with large amounts of water. Do not flush benzene into a confined space, such as a sewer, because of explosion danger. Remove all ignition sources. Ventilate enclosed places.

B. *Waste disposal method.* Disposal methods must conform to other jurisdictional regulations. If allowed, benzene may be disposed of: (a) Absorbing it in dry sand or earth and disposing in a sanitary land fill; (b) if small quantities, by removing it to a safe location from buildings or other combustible sources, pouring it in dry sand or earth and cautiously igniting it; (c) if large quantities, by atomizing it in a suitable combustion chamber.

IV. MONITORING AND MEASUREMENT PROCEDURES

A. *Normal monitoring program:* Measurements taken from the purpose of determining employee exposure are best taken so that the representative average 8-hour exposure may be determined from a single 8-hour sample or two (2) 4-hour samples. Short-time interval samples (or grab samples) may also be used to determine average exposure level if a minimum of five measurements are taken in a random manner over the 8-hour work shift. Random sampling means that any portion of the work shift has the same chance of being sampled as any other. The arithmetic average of all such random samples taken on one work shift is an estimate of an employee's average level of exposure for that work shift. Air samples should be taken in the employee's breathing zone (air that would nearly represent that inhaled by the employee). Sampling must be performed by gas absorption tubes or alternative methods meeting the requirements of the standard with subsequent chemical analysis, by gas chromatography. Methods meeting the prescribed accuracy and precision and requirements are available in the "NIOSH Manual of Analytical Methods."

V. MISCELLANEOUS PRECAUTIONS

A. High exposures to benzene can occur when transferring the liquid from one container to another. Such operations should be well ventilated and good work practices must be established to avoid spills.

B. Use non-sparking tools to open benzene containers which are effectively grounded and bonded prior to opening and pouring.

C. Employers must advise employees of all plant areas and operations where exposure to benzene could occur. Common operations in which high exposures to benzene may be encountered are: the primary production and utilization of benzene, and transfer of benzene.

APPENDIX C—MEDICAL SURVEILLANCE GUIDELINES FOR BENZENE

I. ROUTE OF ENTRY

Inhalation; possible skin absorption.

II. TOXICOLOGY

Benzene is primarily an inhalation hazard. Systemic absorption may cause depression of the hematopoietic system and leukemia. Inhalation of high concentrations can affect the central nervous system function. Aspiration of small amounts of liquid benzene immediately causes pulmonary edema and hemorrhage of pulmonary tissue. The extent of absorption through the skin is unknown. However, absorption may be accelerated in the case of injured skin, and benzene may be more readily absorbed if it is present in a mixture or as a contaminant in solvents which are readily absorbed. Defatting action of benzene may produce primary irritation upon repeated or prolonged contact with the skin. High concentrations are irritating to the mucous membranes of the eyes, nose, and respiratory tract.

III. SIGNS AND SYMPTOMS

It is not clear to what extent benzene is absorbed through the skin, however, direct contact may cause erythema or blistering. Repeated or prolonged contact may result in drying, scaling dermatitis, or precipitate development of secondary skin infections. Local effects of benzene vapor or liquid on the eye are slight. Only at very high concentrations is there any smarting sensation in the eye. Inhalation of high concentrations of benzene may have an initial stimulatory effect on the central nervous system characterized by exhilaration, nervous excitation, and/or giddiness, followed by a period of depression, drowsiness, fatigue, or vertigo. There may be sensation of tightness in the chest accompanied by breathlessness and ultimately the victim may lose consciousness. Convulsions and tremors occur frequently, and death may follow from respiratory paralysis or circulatory collapse in a few minutes to several hours following severe exposures.

The insidious effect on the blood-forming system of prolonged exposure to small quantities of benzene vapor is of extreme importance. The hematopoietic system is the chief target for benzene's toxic effects which are manifested by alterations in the levels of formed elements in the peripheral blood. These effects have been noted to occur at concentrations of benzene which may not cause irritation of mucous membranes, or any unpleasant sensory effects. Early signs and symptoms of benzene morbidity are varied and often not overtly apparent and not specific for benzene exposure. Subjective complaints of headache, dizziness, and loss of appetite may precede or follow clinical symptomology. Bleeding from the nose, gums, or mucous membranes and the development of purpuric spots may occur as the condition progresses. Rapid pulse and low blood pressure in addition to a physical appearance of anemia may accompany a subjective complaint of shortness of breath. Clinical evidence of leukopenia, anemia, and thrombocytopenia, singly or in combination, have been frequently reported.

Bone marrow may appear normal, aplastic, or hyperplastic and may not in all situations correlate with peripheral blood forming tissues. There are great variations in the susceptibility to benzene morbidity which prohibits the identification of "typical" blood picture. The onset of effects of prolonged benzene exposure may be significantly delayed after the actual exposure has ceased.

IV. TREATMENT OF ACUTE TOXIC EFFECTS

Remove from exposure immediately, give oxygen or artificial resuscitation if indicated. Flush eyes and wash contaminated skin. Symptoms of non-specific nervous disturbances may persist following severe exposures. Recovery from mild exposures is usually rapid and complete.

V. SURVEILLANCE AND PREVENTIVE CONSIDERATIONS

A. GENERAL

The principal effects of benzene exposure forming the basis for this regulation are alterations of the hematopoietic system as reflected by changes in the peripheral blood and leukemia. Consequently, the medical surveillance protocol is designed to observe on a regular basis, blood indices for early signs of these effects.

Tests must be performed frequently enough to discover individuals who may be unusually sensitive and likely to develop marrow abnormalities, to monitor those who experience accidental overexposure and to provide early detection of delayed evidence of toxicity.

All workers who are or will be exposed to 0.5 parts per million (ppm) or greater benzene as an eight-hour time-weighted average are to be given the opportunity for a medical examination. Initial examinations are to be provided within 30 days of the effective date of this standard or at the time of initial assignment and interval examinations semiannually thereafter. There are special provisions for medical tests in the event of hematolgic abnormalities or for emergency situations.

F. HEMATOLOGY GUIDELINES

The following information excerpted from the analysis of Dr. Jandl, Chief of Hematology, Harvard School of Medicine, may be useful to physicians in conducting the medical surveillance program.

"A minimum battery of tests is to be performed by strictly standardized methods in the circumstances described above.

1. Red cell, white cell, and platelet counts must be performed using an automated (Coulter) counter. The normal range for the red cell count is approximately 4.4 to 6.0 million cells/mm^3, the values for women being about 0.4 million cells lower than for men. A decline from a normal to a subnormal value, or a rise to a supra-normal value, are indicative of potential toxicity, particularly should there be a decline. The normal total white blood count is approximately 6,200 plus or minus 2,000/mm^3. For cigarette smokers and white count will be higher, the upper range of "normal" being approximately 1,000 cells higher than 8,200. Either a decline from normal to subnormal or a rise from normal to supra-normal, should be regarded as a potential indication of benzene toxicity. The normal platelet count is 250,000 with a range of 140,000 to (at most) 400,000/mm^3. A decline to below 140,000 or a rise to above 400,000 should be regarded as possible evidence of benzene toxicity.

The reticulocyte count is performed by technical assistants using a cover-slip smear (see below). In my opinion, the preferred technique for this purpose is the so-called "dry-method" employing brilliant cresyl blue (BCB) for staining the filaments of reticulum within red cell, and counter-staining with Wright's stain. The extreme range of normal for reticulocytes is 0.4 to 1.5 percent of the red cells, the usual range being 0.5 to 1.2 percent of the red cells, but the typical value is in the range of 0.8 to 1.0 percent. There is an advantage of using the BCB reticulocyte staining technique (followed by counter-staining with Wright's stain) in that visible evidence (i.e., the stained, mounted reticulocyte smears) may be stored, and if kept filed in the dark may later be retrieved for reexamination and comparisons. A decline in reticulocytes to levels of less than 0.4 percent is to be regarded as possible evidence (unless another specific cause is found) of benzene toxicity requiring accelerated surveillance. An increase in reticulocyte levels to above 1.5 percent may also be consistent with (but is not as characteristic of) benzene toxicity.

2. The single most important routine surveillance test is an expert technician's careful examination of the peripheral blood smear. As with the reticulocyte count, the smear should be with fresh uncoagulated blood obtained from a needle tip following venipuncture or from a drop of earlobe blood (capillary blood). If necessary, the smear may under certain limited conditions be made from a blood sample anticoagulated with EDTA (but never with oxalate or heparin). When the smear is to be prepared from a specimen of venous blood which has been collected by a commercial Vacutainer® type tube containing neutral EDTA, the smear should be made as soon as possible after the venesection. A delay of up to 12 hours is permissible between the drawing of the blood specimen into EDTA and the preparation of the smear if the blood is stored at refrigerator (not freezing) temperature. As with the reticulocyte preparations, the smear should be made on cover slips only. Under no circumstances should peripheral blood (or bone marrow aspirate) intended for examination be smeared on microscope slides, a technique which produces artifacts in blood cells and distorts the white cell differential count by severely maldistributing them. Dry blood smears should be stained with Wright's stain which should be filtered at least weekly to remove precipitated dye (saturated completely by methylene blue-eosinate derivates).

3. The minimum mandatory observations to be made from the smear and a discussion of their significance now follows. The observations are four:

a. The differential white blood cell count.

b. Description of abnormalities in the appearance of red cells.

c. Description of any abnormalities in the platelets.

d. A careful search must be made by the technician throughout the better areas of every blood smear for immature white cells such as band forms (in more than normal proportion), any number of metamyelocytes, myelocytes. Any nucleated or multinucleated red blood cells should be reported. Very large "giant" platelets of fragments of megakaryocytes must be recognized. Should only a single one of these abnormalities be found, it should be reported.

An increase in the proportion of band forms among the neutrophilic granulocytes is an abnormality deserving special mention for it represents a very early change which should be considered as an early warning of benzene toxicity in the absence of other causative factors (most commonly infection). Likewise, the appearance of metamyelocytes in the absence of other probable cause is to be considered a possible indication of benzene-induced injury.

An upward trend in the number of basophils, which normally do not exceed about 2.0 percent of the total white cells, is to be regarded as possible evidence of benzene toxicity. A rise in the eosinophil count is less specific but also may be suspicious of toxicity if it rises above 6.0 percent of the total white count.

The normal range of monocytes is from 2.0 to 8.0 percent of the total white count with an average of about 5.0 percent. About 20 percent of individuals reported to have mild but persisting abnormalities caused by exposure to benzene show a persisting monocytosis which is sometimes striking. The findings of a monocyte count which persists at more than 10 to 12 percent of the normal white cell count (when the total count is normal) or persistence of an absolute monocyte count in excess 800/mm^3 should be regarded as a possible sign of benzene-induced injury.

A less frequent but more serious indication of benzene-induced injury to the bone marrow is the findings in the peripheral blood of the so-called "pseudo" (or acquired) Pelger-Huet anomaly. In this anomaly many, or sometimes the majority, of the neutrophilic granulocytes possess two round nuclear segments—less often one or three round segments—rather than three normally elongated segments. When this anomaly is not hereditary, it is often but not invariably predictive of subsequent leukemia. However, only about two percent of patients who ultimately develop acute myelogenous leukemia show the acquired Pelger-Huet anomaly.

An uncommon but ominous sign, one which cannot be detected from the smear, but can be suspected easily by a "sucrose water test" or peripheral blood, is transient paroxysmal nocturnalhemoglobinuria

(PNH), which may first occur insidiously during a period of established aplastic anemia and maybe followed within one to a few years by the appearance of rapidly fatal acute myelogenous leukemia. Clinical detection of PHH, which occurs in perhaps only one or two percent of those destined to have acute myelogenous leukemia, may be difficult; if the presumptive "sucrose water test" for it is positive, the technician may perform the somewhat more definitive Ham test, also known as the acid-serum hemolysis test.

e. Individuals documented to have developed acute myelogenous leukemia years after initial exposure to benzene, have (see above) progressed through preliminary phases of hematologic abnormality. In many instances pancytopenia (i.e., a lowering in the counts of all circulating blood cells of bone marrow origin—but not to the extent implied by the term "aplastic anemia") preceded leukemia for many years. Seldom does relative scarcity of a single type blood cell (or of platelets) represent a harbinger of imminent acute leukemia. However, the finding of two or more cytopenias, or of pancytopenia, must be regarded as highly suspicious of more advanced although still reversible, benzene toxicity. When "pancytopenia" develops and becomes associated with the apearance of immature cells (myelocytes, myeloblasts, erythroblasts, etc.), with abnormal cells (pseudo Pelger-Huet anomaly, atypical nuclear heterochromatin, etc.), or with inappropriate elevations of monocytes, basophils, or eosinophils, the findings must be regarded as evidence of benzene overexposure unless proved other-wise. These and other aggregates of alterations are frequently termed "preleukemia," a term whose meaning is good when used retrospectively, but less appropriate when used prospectively where it has only inferential value. Many severely aplastic patients manifested the ominous finding of 5-10 percent myeloblasts in the marrow, occasional myeloblasts and myelocytes in the blood and 20-30% monocytes; these represented the beginning of recovery rather than the early stage of overt AML. Thus, a considerable proportion of "preleukemias" in benzene poisioning fail to progress to leukemia. Indeed, some have been observed to revert to normal after withdrawal of the afflicted person from toxic exposure. Nonetheless, the chance that "preleukemic" will evolve to leukemia is considerable: at least 20 to 40 percent of persons (only a few of whom were benzene-exposed) with these blood changes develop acute myelogenous leukemia. Certain tests may substantiate the person's prospects for progression or regression. One such test would be an examination of patient's bone marrow. But the decision to perform a bone marrow aspiration or needle biopsy is one that should be made by the hematologist. The findings to be sought there would be: hypoplasia or aplasia; an excess of immature forms; vacuolation in erythroblasts and myelocytes—a phenomenon induced by many toxins apart from benzene, including chloramphenicol and alcohol; and by infections.

The findings of basophilic stippling in circulating red blood cells (usually found in 1 to 5% of red cell during marrow injury), and detection in the bone marrow of what are termed "ringed sideroblasts" must be taken seriously, as they have been noted in recent years to be frequent premonitory signs of subsequent acute leukemia.

In several recent reports dealing with relatively few patients, peroxidase-staining of circulating or marrow neutrophil granules, employing benzidine dihydrochloride, has revealed as a "preleukemic" finding the disappearance of, or diminution in, perosidase in a sizable proportion of the granulocytes. Granulocyte granules are normally strongly peroxidase positive. A steady decline in leukocyte alkaline phosphatase is also suggestive of early acute leukemia. Exposure to benzene commonly causes an early rise in serum iron, often but not always associated with a fall in the reticulocyte count. Thus serial measurements of serum iron levels provide a means of determining whether or not there is a trend representing sustained suppress of erythropoiesis.

Measurement of serum iron, determination of peroxidase and of alkaline phosphatase activity in peripheral granulocytes can be performed by technical assistants.

§ 1910.1029 Coke oven emissions.

(a) *Scope and application.* This section applies to the control of employee exposure to coke oven emissions, except that this section shall not apply to working conditions with regard to which other Federal agencies exercise statutory authority to prescribe or enforce standards affecting occupational safety and health.

(b) *Definitions.* For the purpose of this section:

"Authorized person" means any person specifically authorized by the employer whose duties require the person to enter a regulated area, or any person entering such an area as a designated representative of employees for the purpose of exercising the opportunity to observe monitoring and measuring procedures under paragraph (n) of this section.

"Beehive oven" means a coke oven in which the products of carbonization other than coke are not recovered, but are released into the ambient air.

"Coke oven" means a retort in which coke is produced by the destructive distillation or carbonization of coal.

"Coke oven battery" means a structure containing a number of slot-type coke ovens.

"Coke oven emissions" means the benzene-soluble fraction of total particulate matter present during the destructive distillation or carbonization of coal for the production of coke.

"Director" means the Director, National Institute for Occupational Safety and Health, U.S. Department of Health, Education, and Welfare, or his or her designee.

"Emergency" means any occurence such as, but not limited to, equipment failure which is likely to, or does, result in any massive release of coke oven emissions.

"Existing coke oven battery" means a battery in operation or under construction on January 20, 1977, and which is not a rehabilitated coke oven battery.

"Green push" means coke which when removed from the oven results in emissions due to the presence of unvolatilized coal.

"Pipeline charging" means any apparatus used to introduce coal into an oven which uses a pipe or duct permanently mounted onto an oven and through which coal is charged.

"Rehabilitated coke oven battery" means a battery which is rebuilt, overhauled, renovated, or restored such as from the pad up, after January 20, 1977.

"Secretary" means the Secretary of Labor, U.S. Department of Labor, or his or her designee.

"Stage charging" means a procedure by which a predetermined volume of coal in each larry car hopper is introduced into an oven such that no more than two hoppers are discharging simultaneously.

"Sequential charging" means a procedure, usually automatically timed, by which a predetermined volume of coal in each larry car hopper is introduced into an oven such that no more than two hoppers commence or finish discharging simultaneously although, at some point, all hoppers are discharging simultaneously.

(c) *Permissible exposure limit.* The employer shall assure that no employee in the regulated area is exposed to coke oven emissions at concentrations greater than 150 micrograms per cubic meter of air (150 $\mu g/m^3$), averaged over any 8-hour period.

(d) *Regulated areas.* (1) The employer shall establish regulated areas and shall limit access to them to authorized persons.

(2) The employer shall establish the following as regulated areas:

(i) The coke oven battery including topside and its machinery, pushside and its machinery, coke side and its machinery, and the battery ends; the wharf; and the screening station;

(ii) The beehive oven and its machinery.

(e) *Exposure monitoring and measurement*—(1) *Monitoring program.* (i) Each employer who has a place of employment where coke oven emissions are present shall monitor employees employed in the regulated area to measure their exposure to coke oven emissions.

(ii) The employer shall obtain measurements which are representative of each employee's exposure to coke oven emissions over an eight-hour period. All measurements shall determine exposure without regard to the use of respiratory protection.

(iii) The employer shall collect full-shift (for at least seven continuous hours) personal samples, including at least one sample during each shift for each battery and each job classification within the regulated areas including at least the following job classifications:

(*a*) Lidman;
(*b*) Tar chaser;
(*c*) Larry car operator;
(*d*) Luterman;
(*e*) Machine operator, coke side;
(*f*) Benchman, coke side;
(*g*) Benchman, pusher side;
(*h*) Heater;
(*i*) Quenching car operator;
(*j*) Pusher machine operator;
(*k*) Screening station operator;
(*l*) Wharfman;
(*m*) Oven patcher;
(*n*) Oven repairman;
(*o*) Spellman; and
(*p*) Maintenance personnel.

(iv) The employer shall repeat the monitoring and measurements required by this paragraph (e)(1) at least every three months.

(2) *Redetermination.* Whenever there has been a production, process, or control change which may result in new or additional exposure to coke oven emissions, or whenever the employer has any other reason to suspect an increase in employee exposure, the employer shall repeat the monitoring and measurements required by paragraph (e)(1) of this section for those employees affected by such change or increase.

(3) *Employee notification.* (i) The employer shall notify each employee in writing of the exposure measurements which represent that employe's exposure within five working days after the receipt of the results of measurements required by paragraphs (e)(1) and (e)(2) of this section.

(ii) Whenever such results indicate that the representative employee exposure exceeds the permissible exposure limit, the employer shall, in such notification, inform each employee of that fact and of the corrective action being taken to reduce exposure to or below the permissible exposure limit.

(4) *Accuracy of measurement.* The employer shall use a method of monitoring and measurement which has an accuracy (with a confidence level of 95%) of not less than plus or minus 35% for concentrations of coke oven emissions greater than or equal to 150 $\mu g/m^3$.

(f) *Methods of compliance.* The employer shall control employee exposure to coke oven emissions by the use of engineering controls, work practices and respiratory protection as follows:

(1) *Priority of compliance methods*—(i) *Existing coke oven batteries.* (*a*) The employer shall institute the engineering and work practice controls listed in paragraphs (f)(2), (f)(3) and (f)(4) of this section in existing coke oven batteries at the earliest possible time, but not later than January 20, 1980, except to the extent that the employer can establish that such controls are not feasible. In determining the earliest possible time for institution of engineering and work practice controls, the requirement, effective August 27, 1971, to implement feasible administrative or engineering controls to reduce exposures to coal tar pitch volatiles, shall be considered. Wherever the engineering and work practice controls which can be instituted are not sufficient to reduce employee exposures to or below the permissible exposure limit, the employer shall nonetheless use them to reduce exposures to the lowest level achievable by these controls and shall supplement them by the use of respiratory protection which complies with the requirements of paragraph (g) of this section.

(*b*) The engineering and work practice controls required under paragraphs (f)(2), (f)(3) and (f)(4) of this section are minimum requirements generally applicable to all existing coke oven batteries. If, after implementing all controls required by paragraphs (f)(2), (f)(3) and (f)(4) of this section, or after January 20, 1980, whichever is sooner, employee exposures still exceed the permissible exposure limit, employers shall research, develop and implement any other engineering and work practice controls necessary to reduce exposure to or below the permissible exposure limit except to the extent that the employer can establish that such controls are not feasible. Wherever the engineering and work practice controls which can be instituted are not sufficient to reduce employee exposures to or below the permissible exposure limit, the employer shall nonetheless use them to reduce exposures to the lowest level achievable by these controls and shall supplement them by the use of respiratory protection which complies with the requirements of paragraph (g) of this section.

(ii) *New or rehabilitated coke oven batteries.* (*a*) The employer shall institute the best available engineering and work practice controls on all new or rehabilitated coke oven batteries to reduce and maintain employee exposures at or below the permissible exposure limit, except to the extent that the employer can establish that such controls are not feasible. Wherever the engineering and work practice controls which can be instituted are not sufficient to reduce employee exposures to or below the permissible exposure limit, the employer shall nonetheless use them to reduce exposures to the lowest level achievable by these controls and shall supplement them by the use of respiratory protection which complies with the requirements of paragraph (g) of this section.

(*b*) If after implementing all the engineering and work practice controls required by paragraph (f)(1)(ii)(*a*) of this section, employee exposures still exceed the permissible exposure limit, the employer shall research, develop and implement any other engineering and work practice controls necessary to reduce exposure to or below the permissible exposure limit except to the extent that the employer can establish that such controls are not feasible. Wherever the engineering and work practice controls which can be instituted are not sufficient to reduce employee exposures to or below the permissible exposure limit the employer shall nonetheless use them to reduce exposures to the lowest level achievable by these controls and shall supplement them by the use of respiratory protection which complies with the requirements of paragraph (g) of this section.

(iii) *Beehive ovens.* (*a*) The employer shall institute engineering and work practice controls on all beehive ovens at the earliest possible time to reduce and maintain employee exposures at or below the permissible exposure limit, except to the extent that the employer can establish that such controls are not feasible. In determining the earliest possible time for institution of engineering and work practice controls, the requirement, effective August 27, 1971, to implement feasible administrative or engineering controls to reduce exposures to coal tar pitch volatiles, shall be considered. Wherever the engineering and work practice controls which can be instituted are not sufficient to reduce employee exposures to or below the permissible exposure limit, the employer shall nonetheless use them to reduce exposures to the lowest level achievable by these controls and shall supplement them by the use of respiratory protection which complies with the requirements of paragraph (g) of this section.

(*b*) If, after implementing all engineering and work practice controls required by paragraph (f)(1)(iii)(*a*) of this section, employee exposures still exceed the permissible exposure limit, the employer shall research, develop, and implement any other engineering and work practice controls necessary to reduce exposures to or below the permissible exposure limit except to the extent that the employer can establish that such controls are not feasible. Wherever the engineering and work practice controls which can be instituted are not sufficient to reduce employee exposures to or below the permissible exposure limit, the employer shall nonetheless use them to reduce exposures to the lowest level achievable by these controls and shall supplement them by the use of respiratory protection which complies with the requirements of paragraph (g) of this section.

(2) *Engineering controls*—(i) *Charging.* The employer shall equip and operate existing coke oven batteries with all of the following engineering controls to control coke oven emissions during charging operations:

(*a*) One of the following methods of charging:

(*1*) Stage charging as described in paragraph (f)(3)(i)(*b*) of this section; or

(*2*) Sequential charging as described in paragraph (f)(3)(i)(*b*) of this section except that paragraph (f)(3)(i)(*b*)(*3*)(*iv*) of this section does not apply to sequential charging; or

(*3*) Pipeline charging or other forms of enclosed charging in accordance with paragraph (f)(2)(i) of this section, except that paragraphs (f)(2)(i)(*b*), (*d*), (*e*), (*f*) and (*h*) of this section do not apply;

(*b*) Drafting from two or more points in the oven being charged, through the use of double collector mains, or a fixed or moveable jumper pipe system to another oven, to effectively remove the gases from the oven to the collector mains;

(*c*) Aspiration systems designed and operated to provide sufficient negative pressure and flow volume to effectively move the gases evolved during charging into the collector mains, including sufficient steam pressure, and steam jets of sufficient diameter;

(*d*) Mechanical volumetric controls on each larry car hopper to provide the proper amount of coal to be charged through each charging hole so that the tunnel head will be sufficient to permit the gases to move from the oven into the collector mains;

(*e*) Devices to facilitate the rapid and continuous flow of coal into the oven being charged, such as stainless steel liners, coal vibrators or pneumatic shells;

(*f*) Individually operated larry car drop sleeves and slide gates designed and maintained so that the gases are effectively removed from the oven into the collector mains;

(*g*) Mechanized gooseneck and standpipe cleaners;

(*h*) Air seals on the pusher machine leveler bars to control air infiltration during charging; and

(*i*) Roof carbon cutters or a compressed air system or both on the pusher machine rams to remove roof carbon.

(ii) *Coking.* The employer shall equip and operate existing coke oven batteries with all of the following engineering controls to control coke oven emissions during coking operations:

(*a*) A pressure control system on each battery to obtain uniform collector main pressure;

(*b*) Ready access to door repair facilities capable of prompt and efficient repair of doors, door sealing edges and all door parts;

(*c*) An adequate number of spare doors available for replacement purposes;

(*d*) Chuck door gaskets to control chuck door emissions until such door is repaired, or replaced; and

(*e*) Heat shields on door machines.

(3) *Work practice controls.* (i) *Charging.* The employer shall operate existing coke oven batteries with all of the following work practices to control coke oven emissions during the charging operation:

(*a*) Establishment and implementation of a detailed, written inspection and cleaning procedure for each battery consisting of at least the following elements:

(*1*) Prompt and effective repair or replacement of all engineering controls;

(*2*) Inspection and cleaning of goosenecks and standpipes prior to each charge to a specified minimum diameter sufficient to effectively move the evolved gases from the oven to the collector mains;

(*3*) Inspection for roof carbon build-up prior to each charge and removal of roof carbon as necessary to provide an adequate gas channel so that the gases are effectively moved from the oven into the collector mains;

(*4*) Inspection of the steam aspiration system prior to each charge so that sufficient pressure and volume is maintained to effectively move the gases from the oven to the collector mains;

(*5*) Inspection of steam nozzles and liquor sprays prior to each charge and cleaning as necessary so that the steam nozzles and liquor sprays are clean;

(*6*) Inspection of standpipe caps prior to each charge and cleaning and luting or both as necessary so that the gases are effectively moved from the oven to the collector mains; and

(*7*) Inspection of charging holes and lids for cracks, warpage and other defects prior to each charge and removal of carbon to prevent emissions, and application of luting material to standpipe and charging hole lids where necessary to obtain a proper seal.

(*b*) Establishment and implementation of a detailed written charging procedure, designed and operated to eliminate emissions during charging for each battery, consisting of at least the following elements:

(*1*) Larry car hoppers filled with coal to a predetermined level in accordance with the mechanical volumetric controls required under paragraph (f)(2)(i)(*d*) of this section so as to maintain a sufficient gas passage in the oven to be charged;

(*2*) The larry car aligned over the oven to be charged, so that the drop sleeves fit tightly over the charging holes; and

(*3*) The oven charged in accordance with the following sequence of requirements:

(*i*) The aspiration system turned on;

(*ii*) Coal charged through the outermost hoppers, either individually or together depending on the capacity of the aspiration system to collect the gases involved;

(*iii*) The charging holes used under paragraph (f)(3)(i)(*b*)(*3*)(*ii*) of this section relidded or otherwise sealed off to prevent leakage of coke oven emissions;

(*iv*) If four hoppers are used, the third hopper discharged and relidded or otherwise sealed off to prevent leakage of coke oven emissions;

(*v*) The final hopper discharged until the gas channel at the top of the oven is blocked and then the chuck door opened and the coal leveled;

(*vi*) When the coal from the final hopper is discharged and the leveling operation complete, the charging hole relidded or otherwise sealed off to prevent leakage of coke oven emissions; and

(*vii*) The aspiration system turned off only after the charging holes have been closed.

(*c*) Establishment and implementation of a detailed written charging procedure, designed and operated to eliminate emissions during charging of each pipeline or enclosed charged battery.

(ii) *Coking.* The employer shall operate existing coke oven batteries pursuant to a detailed written procedure established and implemented for the control of coke oven emissions during coking, consisting of at least the following elements:

(*a*) Checking oven back pressure controls to maintain uniform pressure conditions in the collecting main;

(*b*) Repair, replacement and adjustment of oven doors and chuck doors and replacement of door jambs so as to provide a continuous metal-to-metal fit;

(*c*) Cleaning of oven doors, chuck doors and door jambs each coking cycle so as to provide an effective seal;

(*d*) An inspection system and corrective action program to control door emissions to the maximum extent possible; and

(*e*) Luting of doors that are sealed by luting each coking cycle and reluting, replacing or adjusting as necessary to control leakage.

(iii) *Pushing.* The employer shall operate existing coke oven batteries with the following work practices to control coke oven emissions during pushing operations:

(a) Coke and coal spillage quenched as soon as practicable and not shoveled into a heated oven; and

(b) A detailed written procedure for each battery established and implemented for the control of emissions during pushing consisting of the following elements:

(1) Dampering off the ovens and removal of charging hole lids to effectively control coke oven emissions during the push;

(2) Heating of the coal charge uniformly for a sufficient period so as to obtain proper coking including preventing green pushes;

(3) Prevention of green pushes to the maximum extent possible;

(4) Inspection, adjustment and correction of heating flue temperatures and defective flues at least weekly and after any green push, so as to prevent green pushes;

(5) Cleaning of heating flues and related equipment to prevent green pushes, at least weekly and after any green push.

(iv) *Maintenance and repair.* The employer shall operate existing coke oven batteries pursuant to a detailed written procedure of maintenance and repair established and implemented for the effective control of coke oven emissions consisting of the following elements:

(a) Regular inspection of all controls, including goosenecks, standpipes, standpipe caps, charging hold lids and castings, jumper pipes and air seals for cracks, misalignment or other defects and prompt implementation of the necessary repairs as soon as possible;

(b) Maintaining the regulated area in a neat, orderly condition free of coal and coke spillage and debris;

(c) Regular inspection of the damper system, aspiration system and collector main for cracks or leakage, and prompt implementation of the necessary repairs;

(d) Regular inspection of the heating system and prompt implementation of the necessary repairs;

(e) Prevention of miscellaneous fugitive topside emissions;

(f) Regular inspection and patching of oven brickwork;

(g) Maintenance of battery equipment and controls in good working order;

(h) Maintenance and repair of coke oven doors, chuck doors, door jambs and seals; and

(i) Repairs instituted and completed as soon as possible, including temporary repair measures instituted and completed where necessary, including but not limited to:

(1) Prevention of miscellaneous fugitive topside emissions; and

(2) Chuck door gaskets, which shall be installed prior to the start of the next coking cycle.

(4) *Filtered air.* (i) The employer shall provide positive-pressure, temperature controlled filtered air for larry car, pusher machine, door machine, and quench car cabs.

(ii) The employer shall provide standby pulpits on the battery topside, at the wharf, and at the screening station, equipped with positive-pressure, temperature controlled filtered air.

(5) *Emergencies.* Whenever an emergency occurs, the next coking cycle may not begin until the cause of the emergency is determined and corrected, unless the employer can establish that it is necessary to initiate the next coking cycle in order to determine the cause of the emergency.

(6) *Compliance program.* (i) Each employer shall establish and implement a written program to reduce exposures solely by means of the engineering and work practice controls required in paragraph (f) of this section.

(ii) The written program shall include at least the following:

(a) A description of each coke oven operation by battery, including work force and operating crew, coking time, operating procedures and maintenance practices;

(b) Engineering plans and other studies used to determine the controls for the coke battery;

(c) A report of the technology considered in meeting the permissible exposure limit;

(d) Monitoring data obtained in accordance with paragraph (e) of this section;

(e) A detailed schedule for the implementation of the engineering and work practice controls specified in paragraph (f) of this section; and

(f) Other relevant information.

(iii) If, after implementing all controls required by paragraphs (f)(2)-(f)(4) of this section, or after January 20, 1980, whichever is sooner, or after completion of a new or rehabilitated battery the permissible exposure limit is still exceeded, the employer shall develop a detailed written program and schedule for the development and implementation of any additional engineering controls and work practices necessary to reduce exposure to or below the permissible exposure limit.

(iv) Written plans for such programs shall be submitted, upon request, to the Secretary and the Director, and shall be available at the worksite for examination and copying by the Secretary, the Director, and the authorized employee representative. The plans required under paragraph (f)(6) of this section shall be revised and updated at least every six months to reflect the current status of the program.

(7) *Training in compliance procedures.* The employer shall incorporate all written procedures and schedules required under this paragraph (f) in the information and training program required under paragraph (k) of this section and, where appropriate, post in the regulated area.

(g) *Respiratory protection*—(1) *General.* (i) Where respiratory protection is required under this section, the employer shall provide and assure the use of respirators which comply with the requirements of this paragraph (g). Compliance with the permissible exposure limit may not be achieved by the use of respirators except:

(a) During the time period necessary to install or implement feasible engineering and work practice controls; or

(b) In work operations such as maintenance and repair activity in which engineering and work practice controls are technologically not feasible; or

(c) In work situations where feasible engineering and work practice controls are not yet sufficient to reduce exposure to or below the permissible exposure limit; or

(d) *In emergencies.*

(ii) Notwithstanding any other requirement of this section, until January 20, 1978, the wearing of respirators shall be at the discretion of each employee where the employee is not in the vicinity of visible emissions.

(2) *Selection.* (i) Where respirators are required under this section, the employer shall select, provide and assure the use of the appropriate respirator or combination of respirators from Table I below.

TABLE I

RESPIRATORY PROTECTION FOR COKE OVEN EMISSIONS

Airborne concentration of coke oven emissions	Required respirator
(a) Any concentration	(1) A Type C supplied air respirator operated in pressure demand or other positive pressure or continuous flow mode; or (2) A powered air-purifying particulate filter respirator for dust, and mist; or (3) A powered air-purifying particulate filter respirator or combination chemical cartridge and particulate filter respirator for coke oven emissions.
(b) Concentrations not greater than 1500 $\mu g/m^3$.	(1) Any particulate filter respirator for dust and mist, except single-use respirator; or (2) Any particulate filter respirator or combination chemical cartridge and particulate filter respirator for coke oven emissions; or

TABLE I—Continued

RESPIRATORY PROTECTION FOR COKE OVEN EMISSIONS

Airborne concentration of coke oven emissions	Required respirator
	(3) Any respirator listed in paragraph (g)(2)(i)(a) of this section.

(ii) Not later than January 20, 1978, whenever respirators are required by this section for concentrations not greater than 1500 $\mu g/m^3$, the employer shall provide, at the option of each affected employee, either a particulate filter respirator as provided in paragraph (g)(2)(i)(b) of this section, or a powered air-purifying respirator as provided in paragraph (g)(2)(i)(a) of this section.

(iii) The employer shall select respirators from among those approved for protection against dust and mist by the National Institute for Occupational Safety and Health (NIOSH) under the provisions of 30 CFR Part II, except that not later than January 20, 1979, the employer shall select respirators from among those approved by NIOSH for protection against coke oven emissions.

(3) *Respirator program.* The employer shall institute a respiratory protection program in accordance with § 1910.134 of this part.

(4) *Respirator usage.* (i) The employer shall assure that the respirator issued to the employee exhibits minimum facepiece leakage and that the respirator is fitted properly. The employer shall perform quantitative fit tests annually for each employee who uses a non-powered, particulate filter respirator.

(ii) The employer shall allow each employee who uses a filter respirator to change the filter elements whenever an increase in breathing resistance is detected and shall maintain an adequate supply of filter elements for this purpose.

(iii) The employer shall allow employees who wear respirators to wash their face and respirator facepiece to prevent skin irritation associated with respirator use.

(h) *Protective clothing and equipment*—(1) *Provision and use.* The employer shall provide and assure the use of appropriate protective clothing and equipment, such as but not limited to:

(i) Flame resistant jacket and pants;

(ii) Flame resistant gloves;

(iii) Face shields or vented goggles which comply with § 1910.133(a)(2) of this part;

(iv) Insulation from hot surfaces for footwear;

(v) Safety shoes which comply with § 1910.136 of this part; and

(vi) Protective helmets which comply with § 1910.135 of this part.

(2) *Cleaning and replacement.* (i) The employer shall provide the protective clothing required by paragraphs (h)(1) (i) and (ii) of this section in a clean and dry condition at least weekly.

(ii) The employer shall clean, launder, or dispose of protective clothing required by paragraphs (h)(1) (i) and (ii) of this section.

(iii) The employer shall repair or replace the protective clothing and equipment as needed to maintain their effectiveness.

(iv) The employer shall assure that all protective clothing is removed at the completion of a work shift only in change rooms prescribed in paragraph (i)(1) of this section.

(v) The employer shall assure that contaminated protective clothing which is to be cleaned, laundered, or disposed of, is placed in a closable container in the change room.

(vi) The employer shall inform any person who cleans or launders protective clothing required by this section, of the potentially harmful effects of exposure to coke oven emissions.

(i) *Hygiene facilities and practices*—(1) *Change rooms.* The employer shall provide clean change rooms equipped with storage facilities for street clothes and separate storage facilities for protective clothing and equipment whenever employees are required to wear protective clothing and equipment in accordance with paragraph (h)(1) of this section.

(2) *Showers.* (i) The employer shall assure that employees working in the regulated area shower at the end of the work shift.

(ii) The employer shall provide shower facilities in accordance with § 1910.141(d)(3) of this Part.

(3) *Lunchrooms.* The employer shall provide lunchroom facilities which have a temperature controlled, positive pressure, filtered air supply, and which are readily accessible to employees working in the regulated area.

(4) *Lavatories.* (i) The employer shall assure that employees working in the regulated area wash their hands and face prior to eating.

(ii) The employer shall provide lavatory facilities in accordance with § 1910.141(d) (1) and (2) of this Part.

(5) *Prohibition of activities in the regulated area.* (i) The employer shall assure that in the regulated area, food or beverages are not present or consumed, smoking products are not present or used, and cosmetics are not applied, except that these activities may be conducted in the lunchrooms, change rooms and showers required under paragraphs (i)(1)–(i)(3) of this section.

(ii) Drinking water may be consumed in the regulated area.

(j) *Medical surveillance*—(1) *General requirements.* (i) Each employer shall institute a medical surveillance program for all employees who are employed in a regulated area at least 30 days per year.

(ii) This program shall provide each employee covered under paragraph (j)(1)(i) of this section with an opportunity for medical examinations in accordance with this paragraph (j).

(iii) The employer shall inform any employee who refuses any required medical examination of the possible health consequences of such refusal and shall obtain a signed statement from the employee indicating that the employee understands the risk involved in the refusal to be examined.

(iv) The employer shall assure that all medical examinations and procedures are performed by or under the supervision of a licensed physician, and are provided without cost to the employee.

(2) *Initial examinations.* At the time of initial assignment to a regulated area or upon the institution of the medical surveillance program, the employer shall provide a medical examination for employees covered under paragraph (j)(1)(i) of this section including at least the following elements:

(i) A work history and medical history which shall include smoking history and the presence and degree of respiratory symptoms, such as breathlessness, cough, sputum production, and wheezing;

(ii) A 14" x 17" posterior-anterior chest x-ray and International Labour Office UICC/Cincinnati (ILO U/C) rating;

(iii) Pulmonary function tests including forced vital capacity (FVC) and forced expiratory volume at one second (FEV 1.0) with recording of type of equipment used;

(iv) Weight;

(v) A skin examination;

(vi) Urinalysis for sugar, albumin, and hematuria;

(vii) A sputum cytology examination; and

(viii) A urinary cytology examination.

(3) *Periodic examinations.* (i) The employer shall provide the examinations specified in paragraphs (j)(2) (i)–(vi) of this section at least annually for employees covered under paragraph (j)(1)(i) of this section.

(ii) The employer shall provide the examinations specified in paragraphs (j)(2) (i)–(viii) of this section at least semi-annually for employees 45 years of age or older or with five (5) or more years employment in the regulated area.

(iii) Whenever an employee who is 45 years of age or older or with five (5) or more years employment in the regulated area transfers or is transferred from employment in a regulated area, the employer shall continue to provide the examinations specified in paragraphs (j)(2) (i)-(viii) of this section semi-annually, as long as that employee is employed by the same employer or a successor employer.

(iv) Whenever an employee has not taken the examinations specified in paragraphs (j)(3) (i)-(iii) of this section with the six (6) months preceding the termination of employment the employer shall provide such examinations to the employee upon termination of employment.

(4) *Information provided to the physician.* The employer shall provide the following information to the examining physician:

(i) A copy of this regulation and its Appendixes;

(ii) A description of the affected employee's duties as they relate to the employee's exposure;

(iii) The employee's exposure level or estimated exposure level;

(iv) A description of any personal protective equipment used or to be used; and

(v) Information from previous medical examinations of the affected employee which is not readily available to the examining physician.

(5) *Physician's written opinion.* (i) The employer shall obtain a written opinion from the examining physician which shall include:

(*a*) The results of the medical examinations;

(*b*) The physician's opinion as to whether the employee has any detected medical conditions which would place the employee at increased risk of material impairment of the employee's health from exposure to coke oven emissions;

(*c*) Any recommended limitations upon the employee's exposure to coke oven emissions or upon the use of protective clothing or equipment such as respirators; and

(*d*) A statement that the employee has been informed by the physician of the results of the medical examination and any medical conditions which require further explanation or treatment.

(ii) The employer shall instruct the physician not to reveal in the written opinion specific findings or diagnoses unrelated to occupational exposure.

(iii) The employer shall provide a copy of the written opinion to the affected employee.

(k) *Employee information and training*—(1) *Training program.* (i) The employer shall institute a training program for employees who are employed in the regulated area and shall assure their participation.

(ii) The training program shall be provided as of January 27, 1977 for employees who are employed in the regulated area at that time or at the time of initial assignment to a regulated area.

(iii) The training program shall be provided at least annually for all employees who are employed in the regulated area, except that training regarding the occupational safety and health hazards associated with exposure to coke oven emissions and the purpose, proper use, and limitations of respiratory protective devices shall be provided at least quarterly until January 20, 1978.

(iv) The training program shall include informing each employee of:

(*a*) The information contained in the substance information sheet for coke oven emissions (Appendix A);

(*b*) The purpose, proper use, and limitations of respiratory protective devices required in accordance with paragraph (g) of this section;

(*c*) The purpose for and a description of the medical surveillance program required by paragraph (j) of this section including information on the occupational safety and health hazards associated with exposure to coke oven emissions;

(*d*) A review of all written procedures and schedules required under paragraph (f) of this section; and

(*e*) A review of this standard.

(2) *Access to training materials.* (i) The employer shall make a copy of this standard and its appendixes readily available to all employees who are employed in the regulated area.

(ii) The employer shall provide upon request all materials relating to the employee information and training program to the Secretary and the Director.

(l) *Precautionary signs and labels*—(1) *General.* (i) The employer may use labels or signs required by other statutes, regulations or ordinances in addition to, or in combination with, signs and labels required by this paragraph.

(ii) The employer shall assure that no statement appears on or near any sign required by this paragraph which contradicts or detracts from the effects of the required sign.

(iii) The employer shall assure that signs required by this paragraph are illuminated and cleaned as necessary so that the legend is readily visible.

(2) *Signs.* (i) The employer shall post signs in the regulated area bearing the legends:

DANGER

CANCER HAZARD

AUTHORIZED PERSONNEL ONLY

NO SMOKING OR EATING

(ii) In addition, not later than January 20, 1978, the employer shall post signs in the areas where the permissible exposure limit is exceeded bearing the legend:

DANGER

RESPIRATOR REQUIRED

(3) *Labels.* The employer shall apply precautionary labels to all containers of protective clothing contaminated with coke oven emissions bearing the legend:

CAUTION

CLOTHING CONTAMINATED WITH COKE EMISSIONS

DO NOT REMOVE DUST BY BLOWING OR SHAKING

(m) *Recordkeeping*—(1) *Exposure measurements.* The employer shall establish and maintain an accurate record of all measurements taken to monitor employee exposure to coke oven emissions required in paragraph (e) of this section.

(i) This record shall include:

(*a*) Name, social security number, and job classification of the employees monitored;

(*b*) The date(s), number, duration and results of each of the samples taken, including a description of the sampling procedure used to determine representative employee exposure where applicable;

(*c*) The type of respiratory protective devices worn, if any;

(*d*) A description of the sampling and analytical methods used and evidence of their accuracy; and

(*e*) The environmental variables that could affect the measurement of employee exposure.

(ii) The employer shall maintain this record for at least 40 years or for the duration of employment plus 20 years, whichever is longer.

(2) *Medical surveillance.* The employer shall establish and maintain an accurate record for each employee subject to medical surveillance as required by paragraph (j) of this section.

(i) The record shall include:

(*a*) The name, social security number, and description of duties of the employee;

(*b*) A copy of the physician's written opinion;

(*c*) The signed statement of any refusal to take a medical examination under paragraph (j)(1)(ii) of this section; and (*d*) Any employee medical complaints related to exposure to coke oven emissions.

(ii) The employer shall keep, or assure that the examining physician keeps, the following medical records:

(*a*) A copy of the medical examination results including medical and work history required under paragraph (j)(2) of this section;

(*b*) A description of the laboratory procedures used and a copy of any standards or guidelines used to interpret the test results;

(*c*) The initial x-ray;

(*d*) The x-rays for the most recent five (5) years;

(*e*) Any x-ray with a demonstrated abnormality and all subsequent x-rays;

(*f*) The initial cytologic examination slide and written description;

(*g*) The cytologic examination slide and written description for the most recent 10 years; and

(*h*) Any cytologic examination slides with demonstrated atypia, if such atypia persists for 3 years, and all subsequent slides and written descriptions.

(iii) The employer shall maintain medical records required under paragraph (m)(2) of this section for at least 40 years, or for the duration of employment plus 20 years, whichever is longer.

(3) *Availability*. (i) The employer shall make available upon request all records required to be maintained by paragraph (m) of this section to the Secretary and the Director for examination and copying.

(ii) The employer shall make available upon request records of employee exposure measurements required by paragraph (m)(1) of this section for inspection and copying to affected employees and their designated representatives.

(iii) The employer shall make available upon request employee medical records required to be maintained by paragraph (m)(2) of this section to a physician designated by the affected employee or former employee.

(iv) The employer shall make available upon request records of employee exposure measurements required by paragraph (m)(1) of this section for inspection and copying to former employees and their designated representatives which indicate the former employees own exposures.

(4) *Transfer of records*. (i) Whenever the employer ceases to do business, the successor employer shall receive and retain all records required to be maintained by paragraph (m) of this section.

(ii) Whenever the employer ceases to do business and there is no successor employer to receive and retain the records for the prescribed period, these records shall be transmitted by registered mail to the Director.

(iii) At the expiration of the retention period for the records required to be maintained under paragraphs (m)(1) and (m)(2) of this section, the employer shall transmit these records by registered mail to the Director or shall continue to retain such records.

(n) *Observation of monitoring*—(1) *Employee observation*. The employer shall provide affected employees or their representatives an opportunity to observe any measuring or monitoring of employee exposure to coke oven emissions conducted pursuant to paragraph (e) of this section.

(2) *Observation procedures*. (i) Whenever observation of the measuring or monitoring of employee exposure to coke oven emissions requires entry into an area where the use of protective clothing or equipment is required, the employer shall provide the observer with and assure the use of such equipment and shall require the observer to comply with all other applicable safety and health procedures.

(ii) Without interfering with the measurement, observers shall be entitled to:

(*a*) An explanation of the measurement procedures;

(*b*) Observe all steps related to the measurement of coke oven emissions performed at the place of exposure; and

(*c*) Record the results obtained.

(o) *Effective date*. This standard shall become effective January 20, 1977.

(p) *Appendixes*. The information contained in the appendixes to this section is not intended, by itself, to create any additional obligations not otherwise imposed or to detract from any existing obligation.

APPENDIX A—COKE OVEN EMISSIONS SUBSTANCE INFORMATION SHEET

I. SUBSTANCE IDENTIFICATION

A. *Substance:* Coke Oven Emissions

B. *Definition:* The benzene-soluble fraction of total particulate matter present during the destructive distillation or carbonization of coal for the production of coke.

C. *Permissible Exposure Limit:* 150 micrograms per cubic meter of air determined as an average over an 8-hour period.

D. *Regulated areas:* Only employees authorized by your employer should enter a regulated area. The employer is required to designate the following areas as regulated areas: the coke oven battery, including topside and its machinery, pushside and its machinery, cokeside and its machinery, and the battery ends; the screening station; and the wharf; and the beehive ovens and their machinery.

II. HEALTH HAZARD DATA

Exposure to coke oven emissions is a cause of lung cancer, and kidney cancer, in humans. Although there have not been an excess number of skin cancer cases in humans, repeated skin contact with coke oven emissions should be avoided.

III. PROTECTIVE CLOTHING AND EQUIPMENT

A. *Respirators:* Respirators will be provided by your employer for routine use if your employer is in the process of implementing engineering and work practice controls or where engineering and work practice controls are not feasible or insufficient to reduce exposure to or below the PEL. You must wear respirators for non-routine activities or in emergency situations where you are likely to be exposed to levels of coke oven emissions in excess of the permissible exposure limit. Until January 20, 1978, the routine wearing of respirators is voluntary. Until that date, if you choose not to wear a respirator you do not have to do so. You must still have your respirator with you and you must still wear it if you are near visible emissions. Since how well your respirator fits your face is very important, your employer is required to conduct fit tests to make sure the respirator seals properly when you wear it. These tests are simple and rapid and will be explained to you during your training sessions.

B. *Protective clothing:* Your employer is required to provide, and you must wear, appropriate, clean, protective clothing and equipment to protect your body from repeated skin contact with coke oven emissions and from the heat generated during the coking process. This clothing should include such items as jacket and pants and flame resistant gloves. Protective equipment should include face shield or vented goggles, protective helmets and safety shoes, insulated from hot surfaces where appropriate.

IV. HYGIENE FACILITIES AND PRACTICES

You must not eat, drink, smoke, chew gum or tobacco, or apply cosmetics in the regulated area, except that drinking water is permitted. Your employer is required to provide lunchrooms and other areas for these purposes.

Your employer is required to provide showers, washing facilities, and change rooms. If you work in a regulated area, you must wash your face, and hands before eating. You must shower at the end of the work shift. Do not take used protective clothing out of the change rooms without your employer's permission. Your employer is required to provide for laundering or cleaning of your protective clothing.

V. SIGNS AND LABELS

Your employer is required to post warning signs and labels for your protection. Signs must be posted in regulated areas. The signs must warn that a cancer hazard is present, that only authorized employees may enter the area, and that no smoking or eating is allowed. In regulated areas where coke oven emissions are above the permissible exposure limit, the signs should also warn that respirators must be worn.

VI. MEDICAL EXAMINATIONS

If you work in a regulated area at least 30 days per year, your employer is required to provide you with a medical examination every year. The medical examination must include a medical history, a chest x-ray; pulmonary function test; weight comparison; skin examination; a urinalysis and a urine and sputum cytology exam for the early detection of urinary or lung cancer. The cytology exams are only included in the intial exam until you are either 45 years or older or have 5 or more years employment in the regulated areas when the medical exams including these tests are to be given every six months. The examining physician will provide a written opinion to your employer containing the results of the medical exams. You should also receive a copy of this opinion.

VII. OBSERVATION OF MONITORING

Your employer is required to monitor your exposure to coke oven emissions and you are entitled to observe the monitoring procedure. You are entitled to receive an explanation of the measurement procedure, observe the steps taken in the measurement procedure, and to record the results obtained. When the monitoring procedure is taking place in an area where respirators or personal protective clothing and equipment are required to be worn, you must also be provided with and must wear the protective clothing and equipment.

VIII. ACCESS TO RECORDS

You or your representative are entitled to records of your exposure to coke oven emissions upon request to your employer. Your medical examination records can be furnished to your physician upon request to your employer.

IX. TRAINING AND EDUCATION

Additional information on all of these items plus training as to hazards of coke oven emissions and the engineering and work practice controls associated with your job will also be provided by your employer.

APPENDIX B—INDUSTRIAL HYGIENE AND MEDICAL SURVEILLANCE GUIDELINES

I. INDUSTRIAL HYGIENE GUIDELINES

A. *Sampling* (Benzene-Soluble Fraction Total Particulate Matter).

Samples collected should be full shift (at least 7-hour) samples. Sampling should be done using a personal sampling pump with pulsation damper at a flow rate of 2 liters per minute. Samples should be collected on 0.8 micrometer pore size silver membrane filters (37 mm diameter) preceded by Gelman glass fiber type A-E filters encased in three-piece plastic (polystyrene) field monitor cassettes. The cassette face cap should be on and the plug removed. The rotameter should be checked every hour to ensure that proper flow rates are maintained.

A minimum of three full-shift samples should be collected for each job classification on each battery, at least one from each shift. If disparate results are obtained for particular job classification, sampling should be repeated. It is advisable to sample each shift on more than one day to account for environmental variables (wind, precipitation, etc.) which may affect sampling. Differences in exposures among different work shifts may indicate a need to improve work practices on a particular shift. Sampling results from different shifts for each job classification should not be averaged. Multiple samples from the same shift on each battery may be used to calculate an average exposure for a particular job classification.

B. *Analysis.*

1. All extraction glassware is cleaned with dichromic acid cleaning solution, rinsed with tap water, then dionized water, acetone, and allowed to dry completely. The glassware is rinsed with nanograde benzene before use. The Teflon cups are cleaned with benzene then with acetone.

2. Pre-weigh the 2 ml Teflon cups to one hundredth of a milligram (0.01 mg) on a autobalance AD 2 Tare weight of the cups is about 50 mg.

3. Place the silver membrane filter and glass fiber filter into a 15 ml test tube.

4. Extract with 5 ml of benzene for five minutes in an ultrasonic cleaner.

5. Filter the extract in 15 ml medium glass fritted funnels.

6. Rinse test tube and filters with two 1.5 ml aliquots of benzene and filter through the fritted glass funnel.

7. Collect the extract and two rinses in a 10 ml Kontes graduated evaporative concentrator.

8. Evaporate down to 1 ml while rinsing the sides with benzene.

9. Pipet 0.5 ml into the Teflon cup and evaporate to dryness in a vacuum oven at 40° C for 3 hours.

10. Weigh the Teflon cup and the weight gain is due to the benzene soluble residue in half the Sample.

II. MEDICAL SURVEILLANCE GUIDELINES

A. *General.*

The minimum requirements for the medical examination for coke oven workers are given in paragraph (j) of the standard.

The initial examination is to be provided to all coke oven workers who work at least 30 days in the regulated area. The examination includes at 14" X 17" posterior-anterior chest x-ray and a ILO/UC rating to assure some standardization of x-ray reading, pulmonary function tests (FVC and FEV 1.0), weight, urinalysis, skin examination and a sputum and urinary cytologic examination. These tests are to serve as the baseline for comparing the employee's future test results. Periodic exams include all the elements of the initial exams except that the cytologic tests need be performed only on those employees who are 45 years of age or older or who have worked for 5 or more years in the related area; periodic exams are to be performed semiannually for this group instead of annually. The examination contents are minimum requirements, additional tests such as lateral and oblique x-rays or additional pulmonary function tests may be performed if deemed necessary.

B. *Pulmonary function tests.*

Pulmonary function tests should be performed in a manner which minimizes subject and operator bias. There has been shown to be learning effects with regard to the results obtained from certain tests, such as FEV 1.0. Best results can be obtained by multiple trials for each subject. The best of three trials or the average of the last three of five trials may be used in obtaining reliable results. The type of equipment used (manufacturer, model, etc.) should be recorded with the results as reliability and accuracy varies and such information may be important in the evaluation of test results. Care should be exercised to obtain the best possible testing equipment.

C. *Sputum cytology.*

Sputum can be collected by aerosol inhalation during the medical exam or by spontaneous early morning cough at home. Sputum is induced by transoral inhalation of an aerosolized solution of eight percent (8%) sodium chloride in water. After inhaling as few as three to five breaths the subject usually yields an adequate sputum specimen. A minimum of three samples should be collected by the subject at home. All sputum should be collected directly into sixty percent (60%) alcohol.

Scientific evidence suggests that chest x-rays and sputum cytology should be used together as screening tests for lung cancer in high risk populations, such as coke oven workers. The tests are to be performed every six months on workers who are 45 years of age or older or have worked in the regulated area for 5 or more years. Since the tests seem to be complementary, it may be advantageous to alternate the test procedures. For instance, chest x-rays could be obtained in June and December and sputum cytologys should be obtained in March and September. Facilities for providing necessary diagnostic investigation should be readily available as well as chest physicians, surgeons, radiologists, pathologists and immunotherapists to provide any necessary treatment services.

§ 1910.1043 Cotton dust.

(a) *Scope and application.* (1) This section applies to the control of employee exposure to cotton dust in all workplaces, except as provided in paragraph (a)(2).

(2) This section does not apply to: (i) The harvesting of cotton; (ii) the ginning of cotton (Exposure to cotton dust in cotton ginning is covered by § 1910.1046); (iii) maritime operations covered by 29 CFR Parts 1915, 1916, 1917, 1918; (iv) the handling or processing of woven or knitted materials; and (v) the handling or processing of washed cotton.

(3) This section provides mandatory requirements for the control of employee exposure to cotton dust. The mandatory nature of these requirements is not intended, however, to discourage or inhibit the development of different, equally effective means of providing the required protection. The variance provisions of section 6(d) of the Act, and the implementing regulations in Part 1905 of this Title, provide a mechanism for employers to obtain variances from the provisions of this section where the employer has developed alternative procedures which are "safe and healthful as" those required by this section. As implemented by the procedural regulations in Part 1905 of this Title, the variance provisions of the Act permit the flexibility which contributes to efficient compliance with the standard. To aid in the expeditious processing of variance applications, the procedures allow, where appropriate, for the grant of interim orders pending a decision on the merits of the variance as well as for the consideration of variances applicable to groups of employers. OSHA encourages interested employers to utilize the variance provisions of the Act where equally safe and healthful protective means are available.

(b) *Definitions.* For the purpose of this section:

"Assistant Secretary" means the Assistant Secretary of Labor for Occupational Safety and Health, U.S. Department of Labor or designee;

"Blow down" means the cleaning of equipment and surfaces with compressed air.

"Cotton dust" means dust present in the air during the handling or processing of cotton, which may contain a mixture of many substances including ground up plant matter, fiber, bacteria, fungi, soil, pesticides, non-cotton plant matter and other contaminants which may have accumulated with the cotton during the growing, harvesting and subsequent processing or storage periods. Any dust present during the handling and processing of cotton through the weaving or knitting of fabrics, and dust present in other operations or manufacturing processes using new or waste cotton fibers or cotton fiber by-products from textile mills are considered cotton dust.

"Director" means the Director of the National Institute for Occupational Safety and Health (NIOSH), U.S. Department of Health, Education, and Welfare, or designee;

"Lint-free respirable cotton dust" means particles of cotton dust of approximately 15 microns or less aerodynamic equivalent diameter;

"Vertical elutriator cotton dust sampler" means a dust sampler which has a particle size cut-off at approximately 15 microns aerodynamic equivalent diameter when operating at the flow rate of 7.4±0.2 liters per minute;

"Yarn manufacturing" means all textile mill operations from opening to, but not including, slashing and weaving;

"Washed cotton" means cotton which has been thoroughly washed in hot water and is known in the cotton textile trade as purified or dyed. Washed cotton does not include steamed, autoclaved cotton or cotton washed solely in solvents.

(c) *Permissible exposure limits.* (1) The employer shall assure that no employee who is exposed to cotton dust in yarn manufacturing is exposed to airborne concentrations of lint-free respirable cotton dust greater than 200 ug/m^3 mean concentration, averaged over an eight-hour period, as measured by a vertical elutriator or a method of equivalent accuracy and precision.

(2) The employer shall assure that no employee who is exposed to cotton dust in the textile processes known as slashing and weaving is exposed to airborne concentrations of lint-free respirable cotton dust greater than 750 ug/m^3 mean concentration, averaged over an eight hour period, as measured by a vertical elutriator or a method of equivalent accuracy and precision.

(3) The employer shall assure that no employee who is exposed to cotton dust (except for exposures in yarn manufacturing and slashing and weaving covered by paragraphs (c)(1) and (c)(2)) is exposed to airborne concentrations of lint-free respirable cotton dust greater than 500 ug/m^3 mean concentration, averaged over an eight-hour period, as measured by a vertical elutriator or a method of equivalent accuracy and precision.

(d) *Exposure monitoring and measurement*—(1) *General.* (i) For the purposes of this section, employee exposure is that exposure which would occur if the employee were not using a respirator.

(ii) The sampling device to be used shall be either the vertical elutriator cotton dust sampler or a method of equivalent accuracy and precision.

(iii) If an alternative to the vertical elutriator cotton dust sampler is used, the employer shall establish equivalency by demonstrating that the alternative sampling devices;

(*a*) Collect respirable particulates in the same range as the vertical elutriator (approximately 15 microns);

(*b*) Replicates exposure data in side-by-side field comparisons; and

(*c*) Are equivalent within an accuracy and precision range of plus or minus 25 percent for 95 percent of the samples over the range of 0.5 to 2 times the permissible exposure limit.

(2) *Initial monitoring.* Each employer who has a place of employment in which cotton dust is present, shall conduct monitoring by obtaining measurements which are representative of the exposure of all employees to airborne concentrations of lint-free respirable cotton dust over an eight-hour period. The sampling program shall include at least one determination during each shift for each work area.

(3) *Periodic monitoring.* (i) The employer shall repeat the measurements required by paragraph (d)(2) at least every six months.

(ii) Whenever there has been a production, process, or control change which may result in new or additional exposure to cotton dust, or whenever the employer has any other reason to suspect an increase in employee exposure, the employer shall repeat the monitoring and measurements required by paragraph (d)(2) for those employees affected, by the change or increase.

(4) *Employee notification.* (i) Within five working days after the receipt of monitoring results, the employer shall notify each employee in writing of the exposure measurements which represent that employee's exposure.

(ii) Whenever the results indicate that the employee's exposure exceeds the applicable permissible exposure limit specified in paragraph (c) the employer shall include in the written notice a statement that the permissible exposure limit was exceeded and a description of the corrective action taken to reduce exposure below the permissible exposure limit.

(e) *Methods of compliance*—(1) *Engineering and work practice controls.* The employer shall institute engineering and work practice controls to reduce and maintain employee exposure to cotton dust at or below the permissible exposure limit specified in paragraph (c), except to the extent that the employer establishes that such controls are not feasible.

(2) Whenever feasible engineering and work practice controls are not sufficient to reduce employee exposure to or below the permissible exposure limit, the employer shall nonetheless institute these controls to immediately reduce exposure to the lowest feasible level, and shall supplement these controls with the use of respirators which shall comply with the provisions of paragraph (f).

(3) *Compliance program.* (i) Each employer shall establish and implement a written program sufficient to reduce exposures as soon as possible to or below the permissible exposure limit solely by means of engineering controls and work practices as required by paragraph (e)(1) of this section.

(ii) The written program shall include at least the following:

(*a*) A description of each operation or process resulting in employee exposure to cotton dust;

(*b*) Engineering plans and other studies used to determine the controls for each process;

(*c*) A report of the technology considered in meeting the permissible exposure limit;

(*d*) Monitoring data obtained in accordance with paragraph (d) of this section;

(*e*) A detailed schedule for development and implementation of engineering and work practice controls, including exposure levels projected to be achieved by such controls;

(*f*) Work practice program; and

(*g*) Other relevant information.

(iii) The employer's schedule as set forth in the compliance program, shall project completion no later than September 4, 1982,

(iv) The employer shall complete the steps set forth in this program by the dates in the schedule.

(v) Written programs shall be submitted, upon request, to the Assistant Secretary and the Director, and shall be available at the worksite for examination and copying by the Assistant Secretary, the Director, and any affected employee or their designated representatives.

(vi) The written programs required under paragraph (e)(3) of this section shall be revised and updated at least every six months to reflect the current status of the program and current exposure levels.

(4) *Mechanical ventilation.* When mechanical ventilation is used to control exposure, measurements which demonstrate the effectiveness of the system to control exposure, such as capture velocity, duct velocity, or static pressure shall be made at least every six months. Measurements of the system's effectiveness to control exposures shall also be made within five days of any change in production, process or control which may result in any increase in airborne concentrations of cotton dust.

(f) *Use of respirators*—(1) *General.* Where the use of respirators is required under this section, the employer shall provide, at no cost to the employee, and assure the use of respirators which comply with the requirements of this paragraph (f). Respirators shall be used in the following circumstances:

(i) During the time periods necessary to install or implement feasible engineering controls and work practice controls;

(ii) During maintenance and repair activities in which engineering and work practice controls are not feasible;

(iii) In work situations where feasible engineering and work practice controls are not yet sufficient to reduce exposure to or below the permissible exposure limit; and

(iv) In operations specified under paragraph (g)(1).

(v) Whenever an employee requests a respirator.

(2) *Respirator selection.* (i) Where respirators are required under this section, the employer shall select the appropriate respirator from Table 1 below and shall assure that the employee uses the respirator provided.

TABLE I

Cotton dust concentration	Required respirator
Not greater than—	
(a) 5 × the applicable permissible exposure limit.	1. Any dust respirator, including single use
(b) 10 × the applicable permissible exposure limit.	1. Any dust respirator, except single use or quarter mask; or 2. Any supplied air respirator; or 3. Any self-contained breathing apparatus.
(c) 50 × the applicable permissible exposure limit.	1. High efficiency particulate filter respirator with a full facepiece; or 2. Any supplied air respirator with full-facepiece, helmet or hood; or 3. Any self-contained breathing apparatus with full-facepiece.
(d) Greater than 50 × the applicable permissible exposure limit.	1. A powered air-purifying respirator with high efficiency particulate filter; or 2. A self-contained breathing apparatus with a full facepiece operated in pressure demand or other positive pressure mode; or 3. A type "C" supplied air respirator operated in pressure demand or other positive pressure mode; or 4. A combination respirator which includes a type C supplied-air respirator with a full facepiece operated in pressure or continuous-flow mode and an auxiliary self-contained breathing apparatus operated in pressure demand or other positive pressure mode.

(ii) The employer shall select respirators from those tested and approved for protection against dust by the National Institute for Occupational Safety and Health (NIOSH) under the provisions of 30 CFR Part 11.

(iii) Whenever respirators are required by this section for concentrations not greater than 50 × the applicable permissible exposure limit, the employer shall provide and permit the employee to use, at the employee's option, single use dust respirator in preference to any respirator specified in paragraph (a) of Table 1.

(iv) Whenever respirators are required by this section for concentrations not greater than 50 x the applicable permissible exposure limit, the employer shall, upon the request of the employee, provide a powered air purifying respirator with a high efficiency particulate filter in lieu of the respirator specified in paragraphs (a), (b), or (c) of Table I.

(v) Whenever a physician determines that an employee is unable to wear any form of respirator, including a power air purifying respirator, the employee shall be given the opportunity to transfer to another position which is available or which later becomes available having a dust level at or below the PEL. The employer shall assure than an employee who is transferred due to an inability to wear a respirator suffers no loss of earnings or other employment rights or benefits as a result of the transfer.

(vi) Until March 4, 1979, the employer shall provide any dust respirator, including single use, to all employees exposed to cotton dust, unless the employer has conducted the monitoring required by paragraph (d)(2) of this section or otherwise has monitored employee exposure. As soon as monitoring has been conducted, the employer shall select the appropriate respirator from Table I.

(3) *Respirator program.* The employer shall institute a respirator program in accordance with § 1910.134 (b), (d), (e), and (f) of this part.

(4) *Respirator usage.* (i) The employer shall assure that the respirator used by each employee exhibits minimum facepiece leakage and that the respirator is fitted properly.

(ii) The employer shall allow each employee who uses a filter respirator, to change the filter elements whenever an increase in breathing resistance is detected by the employee. The employer shall maintain an adequate supply of filter elements for this purpose.

(iii) The employer shall allow employees who wear respirators to wash their faces and respirator face pieces to prevent skin irritation associated with respirator use.

(g) *Work practices.* Each employer shall, regardless of the level of employee exposure, immediately establish and implement a written program of work practices, which shall minimize cotton dust exposure for each specific job. Where applicable, the following work practices shall be included in the work practices program:

(1) Compressed air "blow down" cleaning shall be prohibited, where alternative means are feasible. Where compressed air "blow down" is done, respirators shall be worn by the employees performing the "blow down", and employees in the area whose presence is not required to perform the "blow down" shall be required to leave the area during this cleaning operation.

(2) Cleaning of clothing or floors with compressed air shall be prohibited.

(3) Floor sweeping shall be performed with a vacuum or with methods designed to minimize dispersal of dust.

(4) Cotton and cotton waste shall be stacked, sorted, baled, dumped, removed or otherwise handled by mechanical means, except where the employer can show that it is infeasible to do so. Where infeasible, the method used for handling cotton and cotton waste shall be the method which reduces exposure to the lowest level feasible.

(5) The employer shall inspect, clean maintain, and repair, all engineering control equipment and ventilation systems including power sources, ducts, and filtration units of the equipment.

(h) *Medical surveillance.* (1) *General.* (i) Each employer who has a place of employment in which cotton dust is present shall institute a program of medical surveillance for all employees exposed to cotton dust.

(ii) The employer shall assure that all medical examinations and procedures are performed by or under the supervision of a licensed physician and are provided without cost to the employee.

(iii) Persons other than licensed physicians, who administer the pulmonary function testing required by this section shall complete a NIOSH approved training course in spirometry.

(2) *Initial examinations.* The employer shall provide each employee who is or may be exposed to cotton dust with an opportunity for medical surveillance. For new employees, this examination shall be provided prior to initial assignment. The medical surveillance shall include at least the following:

(i) A medical history;

(ii) The standardized questionnaire contained in Appendix B; and

(iii) A pulmonary function measurement, including a determination of forced vital capacity (FVC) and forced expiratory volume in 1 second (FEV_1), and the percentage that the measured values of FEV and FVC differ from the predicted values, using the standard tables in Appendix C.

These determinations shall be made for each employee before the employee enters the workplace on the first day of the work week, following at least 35 hours after previous exposure to cotton dust. The tests shall be repeated during the shift, no sooner than 4 and no more than 10 hours after the beginning of the work shift; and, in any event, no more than one hour after cessation of exposure.

(iv) Based upon the questionnaire results, each employee shall be graded according to Schilling's byssinosis classification system.

(3) *Periodic examinations.* (i) The employer shall provide annual medical surveillance for all employees exposed to cotton dust which shall include at least an update of the medical history and standardized questionnaire and the pulmonary function measurements in paragraph (h)(2).

(ii) Medical surveillance as required in paragraph (h)(3)(i) shall be provided every six months for all employees in the following categories:

(*a*) An FEV_1 of greater than 80 percent of predicted, but with an FEV_1 decrement of 5 percent or 200 ml. on a first working day;

(*b*) An FEV_1 of less than 80 percent of the predicted value; or

(*c*) Where, in the opinion of the physician, any significant change in questionnaire findings, pulmonary function results, or other diagnostic tests has occurred.

(iii) An employee whose FEV_1 is less than 60 percent of the predicted value shall be referred to a physician for a detailed pulmonary examination.

(iv) A comparison shall be made between the current examination results and those of previous examinations and a determination made by the physician as to whether there has been a significant change.

(4) *Information provided to the physician.* The employer shall provide the following information to the examining physician:

(i) A copy of this regulation and its Appendices;

(ii) A description of the affected employee's duties as they relate to the employee's exposure;

(iii) The employee's exposure level or anticipated exposure level;

(iv) A description of any personal protective equipment used or to be used; and

(v) Information from previous medical examinations of the affected employee which is not readily available to the examining physician.

(5) *Physician's written opinion.*

(i) The employer shall obtain and furnish the employee with a copy of a written opinion from the examining physician containing the following:

(*a*) The results of the medical examination and tests;

(*b*) The physician's opinion as to whether the employee has any detected medical conditions which would place the employee at increased risk of material impairment of the employee's health from exposure to cotton dust;

(*c*) The physician's recommended limitations upon the employee's exposure to cotton dust or upon the employee's use of respirators including a determination of whether an employee can wear a negative pressure respirator, and he cannot, a determination of the employee's ability to wear a powered air purifying respirator; and,

(*d*) A statement that the employee has been informed by the physician of the results of the medical examination and any medical conditions which require further examination or treatment.

(ii) The written opinion obtained by the employer shall not reveal specific findings or diagnoses unrelated to occupational exposure.

(i) *Employee education and training.*

(1) *Training program.* (i) The employer shall provide a training program for all employees in all workplaces where cotton dust is present, and shall assure that each employee in these workplaces is informed of the following:

(*a*) The specific nature of the operations which could result in exposure to cotton dust at or above the permissible exposure limit;

(*b*) The measures, including work practices required by paragraph (g) of this section, necessary to protect the employee from exposures in excess of the permissible exposure limit;

(*c*) The purpose, proper use and limitations of respirators required by paragraph (f) of this section;

(*d*) The purpose for and a description of the medical surveillance program required by paragraph (h) of this section and other information which will aid exposed employees in understanding the hazards of cotton dust exposure; and

(*e*) The contents of this standard and its appendices.

(ii) The training program shall be provided prior to initial assignment and shall be reported and shall be repeated at least annually.

(2) *Access to training materials.* (i) Each employer shall post a copy of this section with its appendices in a public location at the workplace, and shall, upon request, make copies available to employees.

(ii) The employer shall provide all materials relating to the employee training and information program to the Assistant Secretary and the Director upon request.

(iii) In addition to the information required by paragraph (i)(1), the employer shall include as part of the training program, and shall distribute to employees, any materials, pertaining to the Occupational Safety and Health Act, the regulations issued pursuant to that Act, and this cotton dust standard, which are made available to the employer by the Assistant Secretary.

(j) *Signs.* The employer shall post the following warning signs in each work area where the permissible exposure limit for cotton dust is exceeded:

WARNING

COTTON DUST WORK AREA

May Cause Acute or Delayed Lung Injury

(Byssinosis)

RESPIRATORS

REQUIRED IN THIS AREA

(k) *Recordkeeping.* (1) *Exposure measurements.* (i) The employer shall establish and maintain an accurate record of all measurements required by paragraph (d) of this section.

(ii) The record shall include: (*a*) A log containing the items listed in paragraph IV(a) of Appendix A, and the dates, number, duration, and results of each of the samples taken, including a description of the procedure used to determine representative employee exposures;

(*b*) The type of protective devices worn, if any, and length of time worn; and (*c*) The names, social security numbers, job classifications, and exposure levels of employees whose exposure the measurement is intended to represent.

(iii) The employer shall maintain this record for at least 20 years.

(2) *Medical surveillance.* (i) The employer shall establish and maintain an accurate medical record for each employee subject to medical surveillance required by paragraph (h) of this section.

(ii) The record shall include:

(*a*) The name and social security number and description of the duties of the employee;

(*b*) A copy of the medical examination results including the medical history, questionnaire responses, results of all tests, and the physician's recommendation;

(*c*) A copy of the physician's written opinion;

(*d*) Any employee medical complaints related to exposure to cotton dust;

(*e*) A copy of this standard and its appendices, except that the employer may keep one copy of the standard and the appendices for all employees, provided that he references the standard and appendices in the medical surveillance record of each employee; and

(*f*) A copy of the information provided to the physician as required by paragraph (h)(4) of this section.

(iii) The employer shall maintain this record for at least 20 years.

(3) *Availability.* (i) The employer shall make all records required to be maintained by paragraph (k) of this section available to the Assistant Secretary and the Director for examination and copying.

(ii) The employer shall make employee exposure measurement records required by this section available to affected employees or their designated representatives for examination and copying.

(iii) The employer shall make all records as will indicate a former employee's own exposure to cotton dust available to the former employee or his designated representative for examination and copying.

(iv) The employer shall make an employee's medical records required to be maintained by this section, available to the affected employee or former employee or to a physician or other individual designated by such affected employee or former employees, for examination and copying.

(4) *Transfer of records.* (i) Whenever the employer ceases to do business, the successor employer shall receive and retain all records required to be maintained by paragraph (k) of this section.

(ii) Whenever the employer ceases to do business, and there is no successor employer to receive and retain the records for the prescribed period, these records shall be transmitted to the Director.

(iii) At the expiration of the retention period for the records required to be maintained by this section, the employer shall notify the Director at least 3 months prior to the disposal of such records and shall transmit those records to the Director if he requests them within that period.

(l) *Observation of monitoring.* (1) The employer shall provide affected employees or their designated representatives an opportunity to observe any measuring or monitoring of employee exposure to cotton dust conducted pursuant to paragraph (d) of this section.

(2) Whenever observation of the measuring or monitoring of employee exposure to cotton dust requires entry into an area where the use of personal protective equipment is required, the employer shall provide the observer with and assure the use of such equipment and shall require the observer to comply with all other applicable safety and health procedures.

(3) Without interfering with the measurement, observers shall be entitled to:

(i) An explanation of the measurement procedures;

(ii) An opportunity to observe all steps related to the measurement of airborne concentrations of cotton dust performed at the place of exposure; and

(iii) An opportunity to record the results obtained.

(m) *Effective date*—(1) *General.* This section is effective September 4, 1978, except as otherwise provided below.

(2) *Startup dates.* (i) *Initial monitoring.* The initial monitoring required by paragraph (d)(2) of this section shall be completed as soon as possible but no later than March 4, 1979.

(ii) *Methods of compliance: Engineering and work practice controls.* The engineering and work practice controls required by paragraph (e) of this section shall be implemented no later than September 4, 1982.

(iii) *Compliance program.* The compliance program required by paragraph (e)(3) of this section shall be established no later than September 4, 1979.

(iv) *Respirators.* The respirators required by paragraph (f) of this section shall be provided no later than October 4, 1978. Until September 4, 1979, the provisions of paragraph (f)(2)(vi) apply.

(v) *Work practices.* The work practices required by paragraph (g) of this section shall be implemented no later than December 4, 1978.

(iv) *Medical surveillance.* This initial medical surveillance required by paragraph (h) of this section shall be completed no later than September 4, 1979.

(vii) *Employee education and training.* The initial education and training required by paragraph (i) of this section shall be completed as soon as possible but no later than December 4, 1978.

(n) *Appendices.* (i) Appendices B, C, and D to this section are incorporated as part of this section and the contents of these appendices are mandatory.

(ii) Appendix A contains information which is not intended to create any additional obligations not otherwise imposed or to detract from any existing obligations.

APPENDIX A—AIR SAMPLING AND ANALYTICAL PROCEDURES FOR DETERMINING CONCENTRATIONS OF COTTON DUST

I. SAMPLING LOCATIONS

The sampling procedures must be designed so that samples of the actual dust concentrations are collected accurately and consistently and reflect the concentrations of dust at the place and time of sampling. Sufficient number of 6-hour area samples in each distinct work area of the plant should be collected at locations which provide representative samples of air to which the worker is exposed. In order to avoid filter overloading, sampling time may be shortened when sampling in dusty areas. Samples in each work area should be gathered simultaneously or sequentially during a normal operating period. The daily time-weighted average (TWA) exposure of each worker can then be determined by using the following formula:

Summation of hours spent in each location and the dust concentration in that location.

Total hours exposed

A time-weighted average concentration should be computed for each worker and properly logged and maintained on file for review.

II. SAMPLING EQUIPMENT

(a) Sampler. The instrument selected for monitoring is the Lumsden-Lynch vertical elutriator. It should operate at a flow rate of 7.4±0.2 liters/minute.

The samplers should be cleaned prior to sampling. The pumps should be monitored during sampling.

(b) Filter Holder. A three-piece cassette constructed of polystyrene designed to hold a 37-mm diameter filter should be used. Care must be exercised to insure that an adequate seal exists between elements of the cassette.

(c) Filers and Support Pads. The membrane filters used should be polyvinyl chloride with a 5-um pore size and 37-mm diameter. A support pad, commonly called a backup pad, should be used under the filter membrane in the field monitor cassette.

(d) Balance. A balance sensitive to 10 micrograms should be used.

III. INSTRUMENT CALIBRATION PROCEDURE

Samplers shall be calibrated when first received from the factory, after repair, and after receiving any abuse. The samplers should be calibrated in the laboratory both before they are used in the field and after they have been used to collect a large number of field samples. The primary standard, such as a spirometer or other standard calibrating instruments such as a wet test meter or a large bubble meter or dry gas meter, should be used. Instructions for calibration with the wet test meter follow. If another calibration device is selected, equivalent procedures should be used:

(a) Level wet test meter. Check the water level which should just touch the calibration point at the left side of the meter. If water level is low, add water 1-2° F. warmer than room temperature of till point. Run the meter for 30 minutes before calibration;

(b) Place the polyvinyl chloride membrane filter in the filter cassette;

(c) Assemble the calibration sampling train;

(d) Connect the wet test meter to the train.

The pointer on the meter should run clockwise and a pressure drop of not more than 1.0 inch of water indicated. If the pressure drop is greater than 1.0, disconnect and check the system;

(e) Operate the system for ten minutes before starting the calibration;

(f) Check the vacuum gauge on the pump to insure that the pressure drop across the orifice exceeds 16 inches of mercury;

(g) Record the following on calibration data sheets:

(1) Wet test meter reading, start and finish;

(2) Elapsed time, start and finish (at least two minutes);

(3) Pressure drop at manometer;

(4) Air temperature;

(5) Barometric pressure; and

(6) Limiting orifice number;

(h) Calculate the flow rate and compare against the flow of 7.4±0.2 liters/minute. If flow is between these limits, perform calibration again, average results, and record orifice number and flow rate. If flow is not within these limits, discard or modify orifice and repeat procedure;

(i) Record the name of the person performing the calibration, the date, serial number of the wet test meter, and the number of the critical orifices being calibrated.

IV. SAMPLING PROCEDURE

(a) Sampling data sheets should include a log of:

(1) The date of the sample collection;

(2) The time of sampling;

(3) The location of the sampler;

(4) The sampler serial number;

(5) The cassette number;

(6) The time of starting and stopping the sampling and the duration of sampling;

(7) The weight of the filter before and after sampling;

(8) The weight of dust collected (corrected for controls);

(9) The dust concentration measured;

(10) Other pertinent information; and

(11) Name of person taking sample

(b) Assembly of filter cassette should be as follows:

(1) Loosely assemble 3-piece cassette;

(2) Number cassette;

(3) Place absorbant pad in cassette;

(4) Weigh filter to an accuracy of 10 μg;

(5) Place filter in cassette;

(6) Record weight of filter in log, using cassette number for identification;

(7) Fully assemble cassette, using pressure to force parts tightly together;

(8) Install plugs top and bottom;

(9) Put shrink band on cassette, covering joint between center and bottom parts of cassette; and

(10) Set cassette aside until shrink band dries thoroughly.

(c) Sampling collection should be performed as follows:

(1) Clean lint out of the motor and elutriator;

(2) Install vertical elutriator in sampling locations specified above with inlet 4½ to 5½ feet from floor (breathing zone height);

(3) Remove top section of cassette;

(4) Install cassette in ferrule of elutriator;

(5) Tape cassette to ferrule with masking tape or similar material for air-tight seal;

(6) Remove bottom plug of cassette and attach hose containing critical orifice;

(7) Start elutriator pump and check to see if gauge reads above 14 in. of Hg vacuum;

(8) Record starting time, cassette number, and sampler number;

(9) At end of sampling period stop pump and record time; and

(10) Controls with each batch of samples collected, two additional filter cassettes should be subjected to exactly the same handling as the samples, except that they are not opened. These control filters should be weighed in the same manner as the sample filters.

Any difference in weight in the control filters would indicate that the procedure for handling sample filters may not be adequate and should be evaluated to ascertain the cause of the difference, whether and what necessary corrections must be made, and whether additional samples must be collected.

(d) Shipping. The cassette with samples should be collected, along with the appropriate number of blanks, and shipped to the analytical laboratory in a suitable container to prevent damage in transit.

(e) Weighing of the sample should be achieved as follows:

(1) Remove shrink band;

(2) Remove top and middle sections of cassette and botton plug;

(3) Remove filter from cassette and weigh to an accuracy of 10 μg; and

(4) Record weight in log against original weight

(f) Calculation of volume of air sampled should be determined as follows:

(1) From starting and stopping times of sampling period, determine length of time in minutes of sampling period; and

(2) Multiply sampling time in minutes by flow rate of critical orifice in liters per minute and divide by 1000 to find air quantity in cubic meters.

(g) Calculation of Dust Concentrations should be made as follows:

(1) Substract weight of clean filter from dirty filter and apply control correction to find actual weight of sample. Record this weight (in μg) in log; and

(2) Divide mass of sample in μg by air volume in cubic meters to find dust concentration in μg/m. Record in log.

[4510–26–C]

APPENDIX B-1
RESPIRATORY QUESTIONNAIRE

A. IDENTIFICATION DATA

PLANT______________________________ SOCIAL SECURITY NO. ______________________

DAY MONTH (figures) YEAR (last 2 digits)

NAME______________________________ DATE OF INTERVIEW______________________
(Surname)

______________________________ DATE OF BIRTH______________________
(First Names) M F

ADDRESS______________________________ AGE__________(8,9) SEX__________(10)

______________________________ RACE ☐ W ☐ N ☐ IND. ☐ OTHER (11)

INTERVIEWER: 1 2 3 4 5 6 7 8 (12)

WORK SHIFT: 1st__________ 2nd__________ 3rd__________(13) STANDING HEIGHT__________(14,15)

PRESENT WORK AREA WEIGHT__________(16,18)

If working in more than one specified work area, X area where most of the work shift is spent. If "other," but spending 25% of the work shift in one of the specified work areas, classify in that work area. If carding department employee, check area within that department where most of the work shift is spent (if in doubt, check "throughout"). For work areas such as spinning and weaving where many work rooms may be involved, be sure to check the specific work room to which the employee is assigned – if he works in more than one work room within a department classify as 7 (all) for that department.

	Workroom Number	(19) Open	(20) Pick	Area	(21) Card #1	(22) #2	(23) Spin	(24) Wind	(25) Twist	(26) Spool	(27) Warp	(28) Slash	(29) Weave	(30) Other
AT RISK (cotton & cotton blend)	1			Cards										
	2			Draw										
	3			Comb										
	4			Rove										
	5			Thru Out										
	6													
	7 (all)													
Control (synthetic & wool)	8													
Ex-Worker (cotton)	9													

Use actual wording of each question. Put X in appropriate square after each question. When in doubt record 'No'. When no square, circle appropriate answer.

B. COUGH

(on getting up)†
Do you usually cough first thing in the morning?__________ Yes____ No______ (31)
(Count a cough with first smoke or on "first going out of doors."
Exclude clearing throat or a single cough.)

Do you usually cough during the day or at night?__________ Yes____ No______ (32)
(Ignore an occasional cough.)

If 'Yes' to either question (31-32):

Do you cough like this on most days for as much as three months a year?__________ Yes____ No______ (33)

Do you cough on any particular day of the week? Yes____ No______ (34)

(1) (2) (3) (4) (5) (6) (7)
If 'Yes': Which day? Mon. Tues. Wed. Thur. Fri. Sat Sun. (35)

C. PHLEGM or alternative word to suit local custom.

(on getting up)†
Do you usually bring up any phlegm from your chest first thing in the morning? (Count phlegm with the first smoke or on "first going out of doors." Exclude phlegm from the nose. Count swallowed phlegm.)__________ Yes____ No______ (36)

Do you usually bring up any phlegm from your chest during the day or at night? (Accept twice or more.)__________ Yes____ No______ (37)

If 'Yes' to either question (36) or (37):

Do you bring up phlegm like this on most days for as much as three months each year?__________ Yes____ No______ (38)

If 'Yes' to question (33) or (38):

(cough)
How long have you had this phlegm?
(Write in number of years

(1) ☐ 2 years or less (39)
(2) ☐ More than 2 years-9 years
(3) ☐ 10-19 years
(4) ☐ 20+ years

†These words are for subjects who work at night

D. CHEST ILLNESSES

In the past three years, have you had a period of (increased) †cough and phlegm lasting for 3 weeks or more?__________

(1) ☐ No (40)
(2) ☐ Yes, only one period
(3) ☐ Yes, two or more periods

†For subjects who usually have phlegm

During the past 3 years have you had any chest illness which has kept you off work, indoors at home or in bed? (For as long as one week, flu?) Yes____ No______ (41)

If 'Yes' to (41): Did you bring up (more) phlegm than usual in any of these illnesses? Yes____ No______ (42)

If 'Yes' to (42): During the past three years have you had:
Only one such illness with increased phlegm? (1) ☐ (43)
More than one such illness: (2) ☐ (44)

Br. Grade__________

E. TIGHTNESS

Does your chest ever feel tight or your breathing become difficult?____________Yes______ No______(45)

Is your chest tight or your breathing difficult on any particular day of the week? (after a week or 10 days away from the mill)____________Yes______ No______(46)

If 'Yes': Which day? Mon. (3) Tues. (4) Wed. (5) Thur. (6) Fri. (7) Sat. (8) Sun. (47)
(1) Sometimes (2) Always

If 'Yes' Monday: At what time on Monday does your chest feel tight or your breathing difficult?
1 ☐ Before entering the mill (48)
2 ☐ After entering the mill

(Ask only if NO to Question (45)

In the past, has your chest ever been tight or your breathing difficult on any particular day of the week?____________Yes______ No______(49)

If 'Yes': Which day? Mon. (3) Tues. (4) Wed. (5) Thur. (6) Fri. (7) Sat. (8) Sun. (50)
(1) Sometimes (2) Always

F. BREATHLESSNESS

If disabled from walking by any condition other than heart or lung disease put "X" here and leave questions (52-60) unasked. ☐ (51)

Are you ever troubled by shortness of breath, when hurrying on the level or walking up a slight hill?____________Yes______ No______(52)

If 'No', grade is 1. If Yes', proceed to next question

Do you get short of breath walking with other people at an ordinary pace on the level?____________Yes______ No______(53)

If 'No', grade is 2. If 'Yes', proceed to next question

Do you have to stop for breath when walking at your own pace on the level?____________Yes______ No______(54)

If 'No', grade is 3. If 'Yes', proceed to next question

Are you short of breath on washing or dressing?____________Yes______ No______(55)

If 'No', grade is 4. If 'Yes', grade is 5.

Dyspnea Grd. ____________(56)

ON MONDAYS:

Are you ever troubled by shortness of breath, when hurrying on the level or walking up a slight hill?____________Yes______ No______(57)

If 'No', grade is 1. If 'Yes', proceed to next question

Do you get short of breath walking with other people at an ordinary pace on the level?____________Yes______ No______(58)

If 'No', grade is 2. If 'Yes', proceed to next question

Do you have to stop for breath when walking at your own pace on the level?____________Yes______ No______(59)

If 'No', grade is 3. If 'Yes', proceed to next question

Are you short of breath on washing or dressing?____________Yes______ No______(60)

If 'No', grade is 4. If 'Yes', grade is 5

B. Grd.____________(61)

G. OTHER ILLNESSES AND ALLERGY HISTORY

Do you have a heart condition for which you are under a doctor's care? ________Yes________ No________(62)

Have you ever had asthma? Yes No (63)

If 'Yes', did it begin: (1) ☐ Before age 30

(2) ☐ After age 30

If 'Yes' before 30: did you have asthma before ever going to work in a textile mill? ________Yes________ No________(64)

Have you ever had hay fever or other allergies (other than above)? ________Yes________ No________(65)

H. TOBACCO SMOKING*

Do you smoke?

Record 'Yes' if regular smoker up to one month ago. (Cigarettes, cigar or pipe) ________Yes________ No________(66)

If 'No' to (63).

Have you ever smoked? (Cigarettes, cigars, pipe. Record 'No' if subject has never smoked as much as one cigarette a day, or 1 oz. of tobacco a month, for as long as one year.) ________Yes________ No________(67)

If 'Yes' to (63) or (64); what have you smoked and for how many years? (Write in specific number of years in the appropriate square)

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	
Years	(<5)	(5-9)	(10-14)	(15-19)	(20-24)	(25-29)	(30-34)	(35-39)	(>40)	
Cigarettes										(68)
Pipe										(69)
Cigars										(70)

If cigarettes, how many packs per day? (Write in number of cigarettes)

(1) ☐ less than 1/2 pack (71)
(2) ☐ 1/2 pack, but less than 1 pack
(3) ☐ 1 pack, but less than 1-1/2 packs
(4) ☐ 1-1/2 packs or more

Number of pack years: ________________(72,73)

If an ex-smoker (cigarettes, cigar or pipe), how long since you stopped? (Write in number of years) ________________(74)

(1) ☐ 0-1 year
(2) ☐ 1-4 years
(3) ☐ 5-9 years
(4) ☐ 10+ years

*Have you changed your smoking habits since last interview? If yes, specify what changes.

I. OCCUPATIONAL HISTORY**

Have you ever worked in: A foundry? (As long as one year) ________Yes________ No________(75)

Stone or mineral mining, quarrying or processing? (As long as one year) ________Yes________ No________(76)

Asbestos milling or processing? (Ever) ________Yes________ No________(77)

Other dusts, fumes or smoke? If yes, specify: ________Yes________ No________(78)

Type of exposure ________________________________

Length of exposure ________________________________

**Ask only on first interview.

At what age did you first go to work in a textile mill? (Write in specific age in appropriate square).

(1)	(2)	(3)	(4)	(5)	(6)
<20	20-24	25-29	30-34	35-39	40+

When you first worked in a textile mill, did you work with (1) ☐ Cotton or cotton blend (79)

(2) ☐ Synthetic or wool (80)

APPENDIX B-II

Respiratory Questionnaire
for
Non-Textile Workers for the
Cotton Industry

Identification No. **Interviewer Code**

Location **Date of Interview**

A. IDENTIFICATION

1. NAME (Last) (First) (Middle Initial)

3. PHONE NUMBER
AREA CODE ( )
NO.

4. SOCIAL SECURITY #
(optional see below)
☐

2. CURRENT ADDRESS (Number, Street, or Rural Route, City or Town, County, State, Zip Code)

5. BIRTHDATE
(Mo., Day, Yr.)

6. AGE LAST BIRTHDAY

7. SEX

1 ☐ Male 2 ☐ Female

8. ETHNIC GROUP OR ANCESTRY

1. ☐ White, not of Hispanic Origin
2. ☐ Black, not of Hispanic Origin
3. ☐ Hispanic
4. ☐ American Indian or Alaskan Native
5. ☐ Asian or Pacific Islander
6. ☐ Other: ____________________

9. STANDING HEIGHT
____________ (cm)

10. WEIGHT
____

11. WORK SHIFT
1st ☐ 2nd ☐ 3rd ☐

12. PRESENT WORK AREA

Please indicate primary assigned work area and percent of time spent at that site. If at other locations, please indicate and note percent of time for each.

PRIMARY WORK AREA	
SPECIFIC JOB	

13. APPROPRIATE INDUSTRY

1 ☐ Garnetting
2 ☐ Cottonseed Oil Mill
3 ☐ Cotton Warehouse
4 ☐ Utilization
5 ☐ Cotton Classification
6 ☐ Cotton Ginning

(Furnishing your Social Security number is voluntary. Your refusal to provide this number will not affect any right, benefit, or privilege to which you would be entitled if you did provide your Social Security number. Your Social Security number is being requested since it will permit use in future determinations in statistical research studies.)

B. OCCUPATIONAL HISTORY TABLE

Complete the following table showing the entire work history of the individual from present to initial employment. Sporadic, part-time periods of employment, each of no significant duration, should be grouped if possible.

INDUSTRY AND LOCATION	TENURE OF EMPLOYMENT		SPECIFIC OCCUPATION	AVERAGE NO. DAYS WORKED PER WEEK	HAZARDOUS HEALTH EXPOSURE ASSOCIATED WITH WORK		
	FROM 19__	TO 19__			YES	NO	IF YES, DESCRIBE

C. SYMPTOMS

Use actual wording of each question. Put X in appropriate square after each question. When in doubt record "No".

COUGH

1. Do you usually cough first thing in the morning? (on getting up)* (Count a cough with first smoke or on "first going out of doors". Exclude clearing throat or a single cough.) — 1 ☐ Yes 2 ☐ No

2. Do you usually cough during the day or at night? (Ignore an occasional cough.) — 1 ☐ Yes 2 ☐ No

If YES to either question 1 or 2:

3. Do you cough like this on most days for as much as three months a year? — 1 ☐ Yes 2 ☐ No 9 ☐ NA

4. Do you cough on any particular day of the week? — 1 ☐ Yes 2 ☐ No

If YES:

5. Which day? Mon. Tue. Wed. Thur. Fri. Sat. Sun. __________

PHLEGM

6. Do you usually bring up any phlegm from your chest first thing in the morning? (on getting up)* (Count phlegm with the first smoke or on "first going out of doors." Exclude phlegm from the nose. Count swallowed phlegm.) — 1 ☐ Yes 2 ☐ No

7. Do you usually bring up any phlegm from your chest during the day or at night? (Accept twice or more.) — 1 ☐ Yes 2 ☐ No

If YES to either question 6 or 7:

8. Do you bring up phlegm like this on most days for as much as three months each year? — 1 ☐ Yes 2 ☐ No

If YES to question 3 or 8:

9. How long have you had this phlegm? (cough) (Write in number of years)
   - (1) ☐ 2 years or less
   - (2) ☐ More than 2 years - 9 years
   - (3) ☐ 10-19 years
   - (4) ☐ 20+ years

*These words are for subjects who work at night

CHEST ILLNESS

10. In the past three years, have you had a period of (increased) cough and phlegm lasting for 3 weeks or more?
(1) ☐ No
(2) ☐ Yes, only one period
(3) ☐ Yes, two or more periods

For subjects who usually have phlegm:

11. During the past 3 years have you had any chest illness which has kept you off work, indoors at home or in bed? (For as long as one week, flu?) 1 ☐ Yes 2 ☐ No

If YES to 11:

12. Did you bring up (more) phelgm than usual in any of these illnesses? 1 ☐ Yes 2 ☐ No

If YES to 12: During the past three years have you had:

13. Only one such illness with increased phelgm? 1 ☐ Yes 2 ☐ No

14. More than one such illness: 1 ☐ Yes 2 ☐ No

Br. Brade ________

TIGHTNESS

15. Does your chest ever feel tight or your breathing become difficult? 1 ☐ Yes 2 ☐ No

16. Is your chest tight or your breathing difficult on any particular day of the week? (after a week or 10 days away from the mill) 1 ☐ Yes 2 ☐ No

17. If YES, Which day? Mon. (1) Sometimes (2) Always (3) Tues. (4) Wed. (5) Thur. (6) Fri. (7) Sat. (8) Sun.

18. If YES Monday: At what time on Monday does your chest feel tight or your breathing difficult?
☐ Before entering mill
☐ After entering mill

(ASK ONLY IF NO TO QUESTION 15)

19. In the past, has your chest ever been tight or your breathing difficult on any particular day of the week? 1 ☐ Yes 2 ☐ No

20. If YES, Which day? Mon. (1) Sometimes (2) Always (3) Tues. (4) Wed. (5) Thur. (6) Fri. (7) Sat. (8) Sun.

BREATHLESSNESS

21. If disabled from walking by any condition other than heart or lung disease put "X" in the space and leave questions (22-30) unasked. ☐

22. Are you ever troubled by shortness of breath, when hurrying on the level or walking up a slight hill? 1 ☐ Yes 2 ☐ No

If NO, grade is 1. If YES, proceed to next question

23. Do you get short of breath walking with other people at an ordinary pace on the level? 1 ☐ Yes 2 ☐ No

If NO, grade is 2. If YES, proceed to next question

24. Do you have to stop for breath when walking at your own pace on the level? 1 ☐ Yes 2 ☐ No

If NO, grade is 3. If YES, proceed to next question

25. Are you short of breath on washing or dressing? 1 ☐ Yes 2 ☐ No

If NO, grade is 4. If YES, grade is 5.

26. Dyspnea Grd. ______________

ON MONDAYS:

27 Are you ever troubled by shortness of breath, when hurrying on the level or walking up a slight hill? 1 ☐ Yes 2 ☐ No

If NO, grade is 1. If YES, proceed to next question

28. Do you get short of breath walking with other people at an ordinary pace on the level? 1 ☐ Yes 2 ☐ No

If NO, grade is 2, If YES, proceed to next question

29. Do you have to stop for breath when walking at your own pace on the level? 1 ☐ Yes 2 ☐ No

If NO, grade is 3. If YES, proceed to next question

30. Are you short of breath on washing or dressing? 1 ☐ Yes 2 ☐ No

If NO, grade is 4. If YES, grade is 5

31. B. Grd. ______________

OTHER ILLNESSES AND ALLERGY HISTORY

32. Do you have a heart condition for which you are under a doctor's care? 1 ☐ Yes 2 ☐ No

OTHER ILLNESSES AND ALLERGY HISTORY CONTINUED:

33. Have you ever had asthma? 1 ☐ Yes 2 ☐ No

If yes, did it begin: (1) Before age 30 ☐

(2) After age 30 ☐

34. If yes before 30: did you have asthma before ever going to work in a textile mill? 1 ☐ Yes 2 ☐ No

35. Have you ever had hay fever or other allergies (other than above)? 1 ☐ Yes 2 ☐ No

TOBACCO SMOKING

36. Do you smoke? 1 ☐ Yes 2 ☐ No
Record Yes if regular smoker up to one month ago. (Cigarettes, cigar or pipe)

If NO to (33).

37. Have you ever smoked? (Cigarettes, cigars, pipe. Record NO if subject has never smoked as much as one cigarette a day, or 1 oz. of tobacco a month, for as long as one year.) 1 ☐ Yes 2 ☐ No

If Yes to (33) or (34); what have you smoked for how many years? (Write in specific number of years in the appropriate square)

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Years	(<5)	(5-9)	(10-14)	(15-19)	(20-24)	(25-29)	(30-34)	(35-39)	(>40)
38. Cigarettes									
39. Pipe									
40. Cigars									

41. If cigarettes, how many packs per day? Write in number of cigarettes ______

☐ Less than 1/2 pack
☐ 1/2 pack, but less than 1 pack
☐ 1 pack, but less than 1 1/2 packs
☐ 1-1/2 packs or more

42. Number of pack years: ______

43. If an ex-smoker (cigarettes, cigar or pipe), how long since you stopped? (Write in number of years.) ______

☐ 0-1 year
☐ 1-4 years
☐ 5-9 years
☐ 10+ years

OCCUPATIONAL HISTORY

Have you ever worked in:

44. A foundry? (As long as one year) 1 ☐ Yes 2 ☐ No

45. Stone or mineral mining, quarrying or processing? (As long as one year) 1 ☐ Yes 2 ☐ No

46. Asbestos milling or processing? (Ever) 1 ☐ Yes 2 ☐ No

47. Cotton or cotton blend mill? (For controls only) 1 ☐ Yes 2 ☐ No

48. Other dusts, fumes or smoke? If yes, specify. 1 ☐ Yes 2 ☐ No

Type of exposure ______________________

Length of exposure ______________________

APPENDIX B-III

ABBREVIATED RESPIRATORY QUESTIONNAIRE

A. IDENTIFICATION DATA

PLANT ____________________ SOCIAL SECURITY NO. ____________________

NAME ____________________ DATE OF INTERVIEW ____________________
(Surname) DAY MONTH (figures) YEAR (last 2 digits)

____________________ DATE OF BIRTH ____________________
(First Names) M F

ADDRESS ____________________ AGE __________ (8,9) SEX __________ (10)

____________________ RACE ☐ W ☐ N ☐ IND. ☐ OTHER (11)

INTERVIEWER: 1 2 3 4 5 6 7 8 (12)

WORK SHIFT: 1st __________ 2nd __________ 3rd __________ (13) STANDING HEIGHT __________ (14,15)

PRESENT WORK AREA WEIGHT __________ (16,18)

If working in more than one specified work area, X area where most of the work shift is spent. If "other," but spending 25% of the work shift in one of the specified work areas, classify in that work area. If carding department employee, check area within that department where most of the work shift is spent (if in doubt, check "throughout"). For work areas such as spinning and weaving where many work rooms may be involved, be sure to check the specific work room to which the employee is assigned — if he works in more than one work room within a department classify as 7 (all) for that department.

	Workroom Number	(19) Open	(20) Pick	Area	(21) Card #1	(22) #2	(23) Spin	(24) Wind	(25) Twist	(26) Spool	(27) Warp	(28) Slash	(29) Weave	(30) Other
AT RISK (cotton & cotton blend)	1			Cards										
	2			Draw										
	3			Comb										
	4			Rove										
	5			Thru Out										
	6													
	7 (all)													
Control (synthetic & wool)	8													
Ex-Worker (cotton)	9													

Use actual wording of each question. Put X in appropriate square after each question. When in doubt record 'No'. When no square, circle appropriate answer.

B. COUGH

(on getting up)†
Do you usually cough first thing in the morning?____________Yes____ No______(31)
(Count a cough with first smoke or on "first going out of doors." Exclude clearing throat or a single cough.)

Do you usually cough during the day or at night?____________Yes____No______(32)
(Ignore an occasional cough.)

If 'Yes' to either question (31-32):

Do you cough like this on most days for as much as three months a year?________Yes____ No______(33)

Do you cough on any particular day of the week? Yes____No______(34)

(1) (2) (3) (4) (5) (6) (7)
If 'Yes': Which day? Mon. Tues. Wed. Thur. Fri. Sat Sun. (35)

C. PHLEGM or alternative word to suit local custom.

(on getting up)†
Do you usually bring up any phlegm from your chest first thing in the morning? (Count phlegm with the first smoke or on "first going out of doors." Exclude phlegm from the nose. Count swallowed phlegm.)____________Yes____No______(36)

Do you usually bring up any phlegm from your chest during the day or at night? (Accept twice or more.)____________Yes____No ______(37)

If 'Yes' to either question (36) or (37):

Do you bring up phlegm like this on most days for as much as three months each year?____________Yes___ No______(38)

If 'Yes' to question (33) or (38):

(cough)
How long have you had this phlegm?
(Write in number of years

(1) ☐ 2 years or less
(2) ☐ More than 2 years-9 years
(3) ☐ 10-19 years
(4) ☐ 20+ years

†These words are for subjects who work at night

D. TIGHTNESS

Does your chest ever feel tight or your breathing become difficult?________Yes______ No____ (39)

Is your chest tight or your breathing difficult on any particular day of the week? (after a week or 10 days away from the mill)________Yes______No____ (40)

(3) (4) (5) (6) (7) (8)
If 'Yes': Which day? Mon. Tues. Wed. Thur. Fri. Sat. Sun.
(1) (2)
Sometimes Always (41)

If 'Yes' Monday: At what time on Monday does your chest feel tight or your breathing difficult? (42)
1 ☐ Before entering the mill
2 ☐ After entering the mill

(Ask only if NO to Question (45)

In the past, has your chest ever been tight or your breathing difficult on any particular day of the week?________Yes______No____ (43)

(3) (4) (5) (6) (7) (8)
If 'Yes': Which day? Mon. Tues. Wed. Thur. Fri. Sat. Sun.
(1) (2)
Sometimes Always (44)

E. TOBACCO SMOKING

*Have you changed your smoking habits since last interview?
If yes, specify what changes.

APPENDIX C - SPIROMETRY PREDICTION TABLES FOR NORMAL MALES AND FEMALES

TABLE 1. PREDICTED FVC FOR MALES (KNUDSON, ET AL: AM REV RESPIR DIS, 1976, 113, 587.)

	AGE																							
HT	17	19	21	23	25	27	29	31	33	35	37	39	41	43	45	47	49	51	53	55	57	59	61	63	65
60.0	3.44	3.59	3.75	3.91	3.72	3.66	3.61	3.55	3.49	3.43	3.37	3.32	3.26	3.20	3.14	3.08	3.03	2.97	2.91	2.85	2.79	2.74	2.68	2.62	2.56
60.5	3.50	3.66	3.81	3.97	3.80	3.75	3.69	3.63	3.57	3.51	3.46	3.40	3.34	3.28	3.22	3.17	3.11	3.05	2.99	2.93	2.88	2.82	2.76	2.70	2.64
61.0	3.56	3.72	3.88	4.03	3.89	3.83	3.77	3.71	3.66	3.60	3.54	3.48	3.42	3.37	3.31	3.25	3.19	3.13	3.08	3.02	2.96	2.90	2.84	2.79	2.73
61.5	3.63	3.78	3.94	4.10	3.97	3.91	3.85	3.80	3.74	3.68	3.62	3.56	3.51	3.45	3.39	3.33	3.27	3.22	3.16	3.10	3.04	2.98	2.93	2.87	2.81
62.0	3.69	3.85	4.00	4.16	4.05	3.99	3.94	3.88	3.82	3.76	3.70	3.65	3.59	3.53	3.47	3.41	3.36	3.30	3.24	3.18	3.12	3.07	3.01	2.95	2.89
62.5	3.76	3.91	4.07	4.22	4.13	4.08	4.02	3.96	3.90	3.84	3.79	3.73	3.67	3.61	3.55	3.50	3.44	3.38	3.32	3.26	3.21	3.15	3.09	3.03	2.97
63.0	3.82	3.97	4.13	4.29	4.22	4.16	4.10	4.04	3.99	3.93	3.87	3.81	3.75	3.70	3.64	3.58	3.52	3.46	3.41	3.35	3.29	3.23	3.17	3.12	3.06
63.5	3.88	4.04	4.19	4.35	4.30	4.24	4.18	4.13	4.07	4.01	3.95	3.89	3.84	3.78	3.72	3.66	3.60	3.55	3.49	3.43	3.37	3.31	3.26	3.20	3.14
64.0	3.95	4.10	4.26	4.41	4.38	4.32	4.27	4.21	4.15	4.09	4.03	3.98	3.92	3.86	3.80	3.74	3.69	3.63	3.57	3.51	3.45	3.40	3.34	3.28	3.22
64.5	4.01	4.17	4.32	4.48	4.46	4.41	4.35	4.29	4.23	4.17	4.12	4.06	4.00	3.94	3.88	3.83	3.77	3.71	3.65	3.59	3.54	3.48	3.42	3.36	3.30
65.0	4.07	4.23	4.39	4.54	4.55	4.49	4.43	4.37	4.32	4.26	4.20	4.14	4.08	4.03	3.97	3.91	3.85	3.79	3.74	3.68	3.62	3.56	3.50	3.45	3.39
65.5	4.14	4.29	4.45	4.60	4.63	4.57	4.51	4.46	4.40	4.34	4.28	4.22	4.17	4.11	4.05	3.99	3.93	3.88	3.82	3.76	3.70	3.64	3.59	3.53	3.47
66.0	4.20	4.36	4.51	4.67	4.71	4.65	4.60	4.54	4.48	4.42	4.36	4.31	4.25	4.19	4.13	4.07	4.02	3.96	3.90	3.84	3.78	3.73	3.67	3.61	3.55
66.5	4.26	4.42	4.58	4.73	4.80	4.74	4.68	4.62	4.56	4.51	4.45	4.39	4.33	4.27	4.22	4.16	4.10	4.04	3.98	3.93	3.87	3.81	3.75	3.69	3.64
67.0	4.33	4.48	4.64	4.80	4.88	4.82	4.76	4.70	4.65	4.59	4.53	4.47	4.41	4.36	4.30	4.24	4.18	4.12	4.07	4.01	3.95	3.89	3.83	3.78	3.72
67.5	4.39	4.55	4.70	4.86	4.96	4.90	4.84	4.79	4.73	4.67	4.61	4.55	4.50	4.44	4.38	4.32	4.26	4.21	4.15	4.09	4.03	3.97	3.92	3.86	3.80
68.0	4.45	4.61	4.77	4.92	5.04	4.98	4.93	4.87	4.81	4.75	4.69	4.64	4.58	4.52	4.46	4.40	4.35	4.29	4.23	4.17	4.11	4.06	4.00	3.94	3.88
68.5	4.52	4.67	4.83	4.99	5.13	5.07	5.01	4.95	4.89	4.84	4.78	4.72	4.66	4.60	4.55	4.49	4.43	4.37	4.31	4.26	4.20	4.14	4.08	4.02	3.97
69.0	4.58	4.74	4.89	5.05	5.21	5.15	5.09	5.03	4.98	4.92	4.86	4.80	4.74	4.69	4.63	4.57	4.51	4.45	4.40	4.34	4.28	4.22	4.16	4.11	4.05
69.5	4.64	4.80	4.96	5.11	5.29	5.23	5.17	5.12	5.06	5.00	4.94	4.88	4.83	4.77	4.71	4.65	4.59	4.54	4.48	4.42	4.36	4.30	4.25	4.19	4.13
70.0	4.71	4.86	5.02	5.18	5.37	5.32	5.26	5.20	5.14	5.08	5.02	4.97	4.91	4.85	4.79	4.74	4.68	4.62	4.56	4.50	4.44	4.39	4.33	4.27	4.21
70.5	4.77	4.93	5.08	5.24	5.46	5.40	5.34	5.28	5.22	5.17	5.11	5.05	4.99	4.93	4.88	4.82	4.76	4.70	4.64	4.59	4.53	4.47	4.41	4.35	4.30
71.0	4.83	4.99	5.15	5.30	5.54	5.48	5.42	5.36	5.31	5.25	5.19	5.13	5.07	5.02	4.96	4.90	4.84	4.78	4.73	4.67	4.61	4.55	4.49	4.44	4.38
71.5	4.90	5.05	5.21	5.37	5.62	5.56	5.50	5.45	5.39	5.33	5.27	5.21	5.16	5.10	5.04	4.98	4.92	4.87	4.81	4.75	4.69	4.63	4.58	4.52	4.46
72.0	4.96	5.12	5.27	5.43	5.70	5.65	5.59	5.53	5.47	5.41	5.36	5.30	5.24	5.18	5.12	5.07	5.01	4.95	4.89	4.83	4.78	4.72	4.66	4.60	4.54
72.5	5.03	5.18	5.34	5.49	5.79	5.73	5.67	5.61	5.55	5.50	5.44	5.38	5.32	5.26	5.21	5.15	5.09	5.03	4.97	4.92	4.86	4.80	4.74	4.68	4.63
73.0	5.09	5.24	5.40	5.56	5.87	5.81	5.75	5.69	5.64	5.58	5.52	5.46	5.40	5.35	5.29	5.23	5.17	5.11	5.06	5.00	4.94	4.88	4.82	4.77	4.71
73.5	5.15	5.31	5.46	5.62	5.95	5.89	5.83	5.78	5.72	5.66	5.60	5.54	5.49	5.43	5.37	5.31	5.25	5.20	5.14	5.08	5.02	4.96	4.91	4.85	4.79
74.0	5.22	5.37	5.53	5.68	6.03	5.98	5.92	5.86	5.80	5.74	5.69	5.63	5.57	5.51	5.45	5.40	5.34	5.28	5.22	5.16	5.11	5.05	4.99	4.93	4.87
74.5	5.28	5.44	5.59	5.75	6.12	6.06	6.00	5.94	5.88	5.83	5.77	5.71	5.65	5.59	5.54	5.48	5.42	5.36	5.30	5.25	5.19	5.13	5.07	5.01	4.96
75.0	5.34	5.50	5.65	5.81	6.20	6.14	6.08	6.02	5.97	5.91	5.85	5.79	5.73	5.68	5.62	5.56	5.50	5.44	5.39	5.33	5.27	5.21	5.15	5.10	5.04
75.5	5.41	5.56	5.72	5.87	6.28	6.22	6.17	6.11	6.05	5.99	5.93	5.88	5.82	5.76	5.70	5.64	5.59	5.53	5.47	5.41	5.35	5.30	5.24	5.18	5.12
76.0	5.47	5.63	5.78	5.94	6.36	6.31	6.25	6.19	6.13	6.07	6.02	5.96	5.90	5.84	5.78	5.73	5.67	5.61	5.55	5.49	5.44	5.38	5.32	5.26	5.20
76.5	5.53	5.69	5.85	6.00	6.45	6.39	6.33	6.27	6.21	6.16	6.10	6.04	5.98	5.92	5.87	5.81	5.75	5.69	5.63	5.58	5.52	5.46	5.40	5.34	5.29
77.0	5.60	5.75	5.91	6.06	6.53	6.47	6.41	6.35	6.30	6.24	6.18	6.12	6.06	6.01	5.95	5.89	5.83	5.77	5.72	5.66	5.60	5.54	5.48	5.43	5.37
77.5	5.66	5.82	5.97	6.13	6.61	6.55	6.50	6.44	6.38	6.32	6.26	6.21	6.15	6.09	6.03	5.97	5.92	5.86	5.80	5.74	5.68	5.63	5.57	5.51	5.45
78.0	5.72	5.88	6.04	6.19	6.69	6.64	6.58	6.52	6.46	6.40	6.35	6.29	6.23	6.17	6.11	6.06	6.00	5.94	5.88	5.82	5.77	5.71	5.65	5.59	5.53
78.5	5.79	5.94	6.10	6.26	6.78	6.72	6.66	6.60	6.54	6.49	6.43	6.37	6.31	6.25	6.20	6.14	6.08	6.02	5.96	5.91	5.85	5.79	5.73	5.67	5.62
79.0	5.85	6.01	6.16	6.32	6.86	6.80	6.74	6.68	6.63	6.57	6.51	6.45	6.39	6.34	6.28	6.22	6.16	6.10	6.05	5.99	5.93	5.87	5.81	5.76	5.70
79.5	5.91	6.07	6.23	6.38	6.94	6.88	6.83	6.77	6.71	6.65	6.59	6.54	6.48	6.42	6.36	6.30	6.25	6.19	6.13	6.07	6.01	5.96	5.90	5.84	5.78
80.0	5.98	6.13	6.29	6.45	7.02	6.97	6.91	6.85	6.79	6.73	6.68	6.62	6.56	6.50	6.44	6.39	6.33	6.27	6.21	6.15	6.10	6.04	5.98	5.92	5.86
80.5	6.04	6.20	6.35	6.51	7.11	7.05	6.99	6.93	6.87	6.82	6.76	6.70	6.64	6.58	6.53	6.47	6.41	6.35	6.29	6.24	6.18	6.12	6.06	6.00	5.95
81.0	6.10	6.26	6.42	6.57	7.19	7.13	7.07	7.02	6.96	6.90	6.84	6.78	6.73	6.67	6.61	6.55	6.49	6.44	6.38	6.32	6.26	6.20	6.15	6.09	6.03
81.5	6.17	6.32	6.48	6.64	7.27	7.21	7.16	7.10	7.04	6.98	6.92	6.87	6.81	6.75	6.69	6.63	6.58	6.52	6.46	6.40	6.34	6.29	6.23	6.17	6.11
82.0	6.23	6.39	6.54	6.70	7.35	7.30	7.24	7.18	7.12	7.06	7.01	6.95	6.89	6.83	6.77	6.72	6.66	6.60	6.54	6.48	6.43	6.37	6.31	6.25	6.19
82.5	6.30	6.45	6.61	6.76	7.44	7.38	7.32	7.26	7.20	7.15	7.09	7.03	6.97	6.91	6.86	6.80	6.74	6.68	6.62	6.57	6.51	6.45	6.39	6.33	6.28
83.0	6.36	6.51	6.67	6.83	7.52	7.46	7.40	7.35	7.29	7.23	7.17	7.11	7.06	7.00	6.94	6.88	6.82	6.77	6.71	6.65	6.59	6.53	6.48	6.42	6.36
83.5	6.42	6.58	6.73	6.89	7.60	7.54	7.49	7.43	7.37	7.31	7.25	7.20	7.14	7.08	7.02	6.96	6.91	6.85	6.79	6.73	6.67	6.62	6.56	6.50	6.44
84.0	6.49	6.64	6.80	6.95	7.68	7.63	7.57	7.51	7.45	7.39	7.34	7.28	7.22	7.16	7.10	7.05	6.99	6.93	6.87	6.81	6.76	6.70	6.64	6.58	6.52
84.5	6.55	6.71	6.86	7.02	7.77	7.71	7.65	7.59	7.53	7.48	7.42	7.36	7.30	7.24	7.19	7.13	7.07	7.01	6.95	6.90	6.84	6.78	6.72	6.66	6.61
85.0	6.61	6.77	6.92	7.08	7.85	7.79	7.73	7.68	7.62	7.56	7.50	7.44	7.39	7.33	7.27	7.21	7.15	7.10	7.04	6.98	6.92	6.86	6.81	6.75	6.69

TABLE 2. PREDICTED FEV1 FOR MALES (KNUDSON, ET AL: AM REV RESPIR DIS, 1976, 113, 587.)

	AGE																								
HT	17	19	21	23	25	27	29	31	33	35	37	39	41	43	45	47	49	51	53	55	57	59	61	63	65
60.0	2.97	3.06	3.15	3.24	3.05	2.99	2.94	2.88	2.83	2.78	2.72	2.67	2.61	2.56	2.51	2.45	2.40	2.34	2.29	2.24	2.18	2.13	2.07	2.02	1.97
60.5	3.03	3.12	3.21	3.30	3.11	3.06	3.00	2.95	2.90	2.84	2.79	2.73	2.68	2.63	2.57	2.52	2.46	2.41	2.36	2.30	2.25	2.19	2.14	2.09	2.03
61.0	3.08	3.17	3.26	3.35	3.18	3.12	3.07	3.02	2.96	2.91	2.85	2.80	2.75	2.69	2.64	2.58	2.53	2.48	2.42	2.37	2.31	2.26	2.21	2.15	2.10
61.5	3.14	3.23	3.32	3.41	3.24	3.19	3.14	3.08	3.03	2.97	2.92	2.87	2.81	2.76	2.70	2.65	2.60	2.54	2.49	2.43	2.38	2.33	2.27	2.22	2.16
62.0	3.20	3.29	3.38	3.47	3.31	3.26	3.20	3.15	3.09	3.04	2.99	2.93	2.88	2.82	2.77	2.72	2.66	2.61	2.55	2.50	2.45	2.39	2.34	2.28	2.23
62.5	3.26	3.35	3.44	3.53	3.38	3.32	3.27	3.22	3.16	3.11	3.05	3.00	2.95	2.89	2.84	2.78	2.73	2.68	2.62	2.57	2.51	2.46	2.41	2.35	2.30
63.0	3.32	3.41	3.50	3.59	3.44	3.39	3.34	3.28	3.23	3.17	3.12	3.07	3.01	2.96	2.90	2.85	2.80	2.74	2.69	2.63	2.58	2.53	2.47	2.42	2.36
63.5	3.38	3.47	3.56	3.65	3.51	3.46	3.40	3.35	3.29	3.24	3.19	3.13	3.08	3.02	2.97	2.92	2.86	2.81	2.75	2.70	2.65	2.59	2.54	2.48	2.43
64.0	3.43	3.52	3.61	3.70	3.58	3.52	3.47	3.41	3.36	3.31	3.25	3.20	3.14	3.09	3.04	2.98	2.93	2.87	2.82	2.77	2.71	2.66	2.60	2.55	2.50
64.5	3.49	3.58	3.67	3.76	3.64	3.59	3.53	3.48	3.43	3.37	3.32	3.26	3.21	3.16	3.10	3.05	2.99	2.94	2.89	2.83	2.78	2.72	2.67	2.62	2.56
65.0	3.55	3.64	3.73	3.82	3.71	3.65	3.60	3.55	3.49	3.44	3.38	3.33	3.28	3.22	3.17	3.11	3.06	3.01	2.95	2.90	2.84	2.79	2.74	2.68	2.63
65.5	3.61	3.70	3.79	3.88	3.77	3.72	3.67	3.61	3.56	3.50	3.45	3.40	3.34	3.29	3.23	3.18	3.13	3.07	3.02	2.96	2.91	2.86	2.80	2.75	2.69
66.0	3.67	3.76	3.85	3.94	3.84	3.79	3.73	3.68	3.62	3.57	3.52	3.46	3.41	3.35	3.30	3.25	3.19	3.14	3.08	3.03	2.98	2.92	2.87	2.81	2.76
66.5	3.73	3.82	3.91	4.00	3.91	3.85	3.80	3.74	3.69	3.64	3.58	3.53	3.47	3.42	3.37	3.31	3.26	3.20	3.15	3.10	3.04	2.99	2.93	2.88	2.83
67.0	3.79	3.88	3.97	4.06	3.97	3.92	3.86	3.81	3.76	3.70	3.65	3.59	3.54	3.49	3.43	3.38	3.32	3.27	3.22	3.16	3.11	3.05	3.00	2.95	2.89
67.5	3.84	3.93	4.02	4.11	4.04	3.98	3.93	3.88	3.82	3.77	3.71	3.66	3.61	3.55	3.50	3.44	3.39	3.34	3.28	3.23	3.17	3.12	3.07	3.01	2.96
68.0	3.90	3.99	4.08	4.17	4.10	4.05	4.00	3.94	3.89	3.83	3.78	3.73	3.67	3.62	3.56	3.51	3.46	3.40	3.35	3.29	3.24	3.19	3.13	3.08	3.02
68.5	3.96	4.05	4.14	4.23	4.17	4.12	4.06	4.01	3.95	3.90	3.85	3.79	3.74	3.68	3.63	3.58	3.52	3.47	3.41	3.36	3.31	3.25	3.20	3.14	3.09
69.0	4.02	4.11	4.20	4.29	4.24	4.18	4.13	4.07	4.02	3.97	3.91	3.86	3.80	3.75	3.70	3.64	3.59	3.53	3.48	3.43	3.37	3.32	3.26	3.21	3.16
69.5	4.08	4.17	4.26	4.35	4.30	4.25	4.19	4.14	4.09	4.03	3.98	3.92	3.87	3.82	3.76	3.71	3.65	3.60	3.55	3.49	3.44	3.38	3.33	3.28	3.22
70.0	4.14	4.23	4.32	4.41	4.37	4.31	4.26	4.21	4.15	4.10	4.04	3.99	3.94	3.88	3.83	3.77	3.72	3.67	3.61	3.56	3.50	3.45	3.40	3.34	3.29
70.5	4.19	4.28	4.37	4.46	4.43	4.38	4.33	4.27	4.22	4.16	4.11	4.06	4.00	3.95	3.89	3.84	3.79	3.73	3.68	3.62	3.57	3.52	3.46	3.41	3.35
71.0	4.25	4.34	4.43	4.52	4.50	4.45	4.39	4.34	4.28	4.23	4.18	4.12	4.07	4.01	3.96	3.91	3.85	3.80	3.74	3.69	3.64	3.58	3.53	3.47	3.42
71.5	4.31	4.40	4.49	4.58	4.57	4.51	4.46	4.40	4.35	4.30	4.24	4.19	4.13	4.08	4.03	3.97	3.92	3.86	3.81	3.76	3.70	3.65	3.59	3.54	3.49
72.0	4.37	4.46	4.55	4.64	4.63	4.58	4.52	4.47	4.42	4.36	4.31	4.25	4.20	4.15	4.09	4.04	3.98	3.93	3.88	3.82	3.77	3.71	3.66	3.61	3.55
72.5	4.43	4.52	4.61	4.70	4.70	4.64	4.59	4.54	4.48	4.43	4.37	4.32	4.27	4.21	4.16	4.10	4.05	4.00	3.94	3.89	3.83	3.78	3.73	3.67	3.62
73.0	4.49	4.58	4.67	4.76	4.76	4.71	4.66	4.60	4.55	4.49	4.44	4.39	4.33	4.28	4.22	4.17	4.12	4.06	4.01	3.95	3.90	3.85	3.79	3.74	3.68
73.5	4.54	4.63	4.72	4.81	4.83	4.78	4.72	4.67	4.61	4.56	4.51	4.45	4.40	4.34	4.29	4.24	4.18	4.13	4.07	4.02	3.97	3.91	3.86	3.80	3.75
74.0	4.60	4.69	4.78	4.87	4.90	4.84	4.79	4.73	4.68	4.63	4.57	4.52	4.46	4.41	4.36	4.30	4.25	4.19	4.14	4.09	4.03	3.98	3.92	3.87	3.82
74.5	4.66	4.75	4.84	4.93	4.96	4.91	4.85	4.80	4.75	4.69	4.64	4.58	4.53	4.48	4.42	4.37	4.31	4.26	4.21	4.15	4.10	4.04	3.99	3.94	3.88
75.0	4.72	4.81	4.90	4.99	5.03	4.97	4.92	4.87	4.81	4.76	4.70	4.65	4.60	4.54	4.49	4.43	4.38	4.33	4.27	4.22	4.16	4.11	4.06	4.00	3.95
75.5	4.78	4.87	4.96	5.05	5.09	5.04	4.99	4.93	4.88	4.82	4.77	4.72	4.66	4.61	4.55	4.50	4.45	4.39	4.34	4.28	4.23	4.18	4.12	4.07	4.01
76.0	4.84	4.93	5.02	5.11	5.16	5.11	5.05	5.00	4.94	4.89	4.84	4.78	4.73	4.67	4.62	4.57	4.51	4.46	4.40	4.35	4.30	4.24	4.19	4.13	4.08
76.5	4.90	4.99	5.08	5.17	5.23	5.17	5.12	5.06	5.01	4.96	4.90	4.85	4.79	4.74	4.69	4.63	4.58	4.52	4.47	4.42	4.36	4.31	4.25	4.20	4.15
77.0	4.95	5.04	5.13	5.22	5.29	5.24	5.18	5.13	5.08	5.02	4.97	4.91	4.86	4.81	4.75	4.70	4.64	4.59	4.54	4.48	4.43	4.37	4.32	4.27	4.21
77.5	5.01	5.10	5.19	5.28	5.36	5.30	5.25	5.20	5.14	5.09	5.03	4.98	4.93	4.87	4.82	4.76	4.71	4.66	4.60	4.55	4.49	4.44	4.39	4.33	4.28
78.0	5.07	5.16	5.25	5.34	5.42	5.37	5.32	5.26	5.21	5.15	5.10	5.05	4.99	4.94	4.88	4.83	4.78	4.72	4.67	4.61	4.56	4.51	4.45	4.40	4.34
78.5	5.13	5.22	5.31	5.40	5.49	5.44	5.38	5.33	5.27	5.22	5.17	5.11	5.06	5.00	4.95	4.90	4.84	4.79	4.73	4.68	4.63	4.57	4.52	4.46	4.41
79.0	5.19	5.28	5.37	5.46	5.56	5.50	5.45	5.39	5.34	5.29	5.23	5.18	5.12	5.07	5.02	4.96	4.91	4.85	4.80	4.75	4.69	4.64	4.58	4.53	4.48
79.5	5.25	5.34	5.43	5.52	5.62	5.57	5.51	5.46	5.41	5.35	5.30	5.24	5.19	5.14	5.08	5.03	4.97	4.92	4.87	4.81	4.76	4.70	4.65	4.60	4.54
80.0	5.30	5.39	5.48	5.57	5.69	5.63	5.58	5.53	5.47	5.42	5.36	5.31	5.26	5.20	5.15	5.09	5.04	4.99	4.93	4.88	4.82	4.77	4.72	4.66	4.61
80.5	5.36	5.45	5.54	5.63	5.75	5.70	5.65	5.59	5.54	5.48	5.43	5.38	5.32	5.27	5.21	5.16	5.11	5.05	5.00	4.94	4.89	4.84	4.78	4.73	4.67
81.0	5.42	5.51	5.60	5.69	5.82	5.77	5.71	5.66	5.60	5.55	5.50	5.44	5.39	5.33	5.28	5.23	5.17	5.12	5.06	5.01	4.96	4.90	4.85	4.79	4.74
81.5	5.48	5.57	5.66	5.75	5.89	5.83	5.78	5.72	5.67	5.62	5.56	5.51	5.45	5.40	5.35	5.29	5.24	5.18	5.13	5.08	5.02	4.97	4.91	4.86	4.81
82.0	5.54	5.63	5.72	5.81	5.95	5.90	5.84	5.79	5.74	5.68	5.63	5.57	5.52	5.47	5.41	5.36	5.30	5.25	5.20	5.14	5.09	5.03	4.98	4.93	4.87
82.5	5.60	5.69	5.78	5.87	6.02	5.96	5.91	5.86	5.80	5.75	5.69	5.64	5.59	5.53	5.48	5.42	5.37	5.32	5.26	5.21	5.15	5.10	5.05	4.99	4.94
83.0	5.65	5.74	5.83	5.92	6.08	6.03	5.98	5.92	5.87	5.81	5.76	5.71	5.65	5.60	5.54	5.49	5.44	5.38	5.33	5.27	5.22	5.17	5.11	5.06	5.00
83.5	5.71	5.80	5.89	5.98	6.15	6.10	6.04	5.99	5.93	5.88	5.83	5.77	5.72	5.66	5.61	5.56	5.50	5.45	5.39	5.34	5.29	5.23	5.18	5.12	5.07
84.0	5.77	5.86	5.95	6.04	6.22	6.16	6.11	6.05	6.00	5.95	5.89	5.84	5.78	5.73	5.68	5.62	5.57	5.51	5.46	5.41	5.35	5.30	5.24	5.19	5.14
84.5	5.83	5.92	6.01	6.10	6.28	6.23	6.17	6.12	6.07	6.01	5.96	5.90	5.85	5.80	5.74	5.69	5.63	5.58	5.53	5.47	5.42	5.36	5.31	5.26	5.20
85.0	5.89	5.98	6.07	6.16	6.35	6.29	6.24	6.19	6.13	6.08	6.02	5.97	5.92	5.86	5.81	5.75	5.70	5.65	5.59	5.54	5.48	5.43	5.38	5.32	5.27

TABLE 3. PREDICTED FVC FOR FEMALES (KNUDSON, ET AL: AM REV RESPIR DIS, 1976, 113, 587.)

AGE

HT	17	19	21	23	25	27	29	31	33	35	37	39	41	43	45	47	49	51	53	55	57	59	61	63	65
52.0	2.45	2.64	2.65	2.61	2.56	2.52	2.47	2.43	2.39	2.34	2.30	2.25	2.21	2.17	2.12	2.08	2.03	1.99	1.95	1.90	1.86	1.81	1.77	1.73	1.68
52.5	2.50	2.68	2.70	2.65	2.61	2.57	2.52	2.48	2.43	2.39	2.35	2.30	2.26	2.21	2.17	2.13	2.08	2.04	1.99	1.95	1.91	1.86	1.82	1.77	1.73
53.0	2.54	2.72	2.74	2.70	2.66	2.61	2.57	2.52	2.48	2.44	2.39	2.35	2.30	2.26	2.22	2.17	2.13	2.08	2.04	2.00	1.95	1.91	1.86	1.82	1.78
53.5	2.58	2.76	2.79	2.75	2.70	2.66	2.62	2.57	2.53	2.48	2.44	2.40	2.35	2.31	2.26	2.22	2.18	2.13	2.09	2.04	2.00	1.96	1.91	1.87	1.82
54.0	2.62	2.81	2.84	2.79	2.75	2.71	2.66	2.62	2.57	2.53	2.49	2.44	2.40	2.35	2.31	2.27	2.22	2.18	2.13	2.09	2.05	2.00	1.96	1.91	1.87
54.5	2.66	2.85	2.89	2.84	2.80	2.75	2.71	2.67	2.62	2.58	2.53	2.49	2.45	2.40	2.36	2.31	2.27	2.23	2.18	2.14	2.09	2.05	2.01	1.96	1.92
55.0	2.71	2.89	2.93	2.89	2.84	2.80	2.76	2.71	2.67	2.62	2.58	2.54	2.49	2.45	2.40	2.36	2.32	2.27	2.23	2.18	2.14	2.10	2.05	2.01	1.96
55.5	2.75	2.93	2.98	2.94	2.89	2.85	2.80	2.76	2.72	2.67	2.63	2.58	2.54	2.50	2.45	2.41	2.36	2.32	2.28	2.23	2.19	2.14	2.10	2.06	2.01
56.0	2.79	2.97	3.03	2.98	2.94	2.89	2.85	2.81	2.76	2.72	2.67	2.63	2.59	2.54	2.50	2.45	2.41	2.37	2.32	2.28	2.23	2.19	2.15	2.10	2.06
56.5	2.83	3.01	3.07	3.03	2.99	2.94	2.90	2.85	2.81	2.77	2.72	2.68	2.63	2.59	2.55	2.50	2.46	2.41	2.37	2.33	2.28	2.24	2.19	2.15	2.11
57.0	2.87	3.06	3.12	3.08	3.03	2.99	2.94	2.90	2.86	2.81	2.77	2.72	2.68	2.64	2.59	2.55	2.50	2.46	2.42	2.37	2.33	2.28	2.24	2.20	2.15
57.5	2.91	3.10	3.17	3.12	3.08	3.04	2.99	2.95	2.90	2.86	2.82	2.77	2.73	2.68	2.64	2.60	2.55	2.51	2.46	2.42	2.38	2.33	2.29	2.24	2.20
58.0	2.96	3.14	3.21	3.17	3.13	3.08	3.04	2.99	2.95	2.91	2.86	2.82	2.77	2.73	2.69	2.64	2.60	2.55	2.51	2.47	2.42	2.38	2.33	2.29	2.25
58.5	3.00	3.18	3.26	3.22	3.17	3.13	3.09	3.04	3.00	2.95	2.91	2.87	2.82	2.78	2.73	2.69	2.65	2.60	2.56	2.51	2.47	2.43	2.38	2.34	2.29
59.0	3.04	3.22	3.31	3.26	3.22	3.18	3.13	3.09	3.04	3.00	2.96	2.91	2.87	2.82	2.78	2.74	2.69	2.65	2.60	2.56	2.52	2.47	2.43	2.38	2.34
59.5	3.08	3.27	3.36	3.31	3.27	3.22	3.18	3.14	3.09	3.05	3.00	2.96	2.92	2.87	2.83	2.78	2.74	2.70	2.65	2.61	2.56	2.52	2.48	2.43	2.39
60.0	3.12	3.31	3.40	3.36	3.31	3.27	3.23	3.18	3.14	3.09	3.05	3.01	2.96	2.92	2.87	2.83	2.79	2.74	2.70	2.65	2.61	2.57	2.52	2.48	2.43
60.5	3.17	3.35	3.45	3.41	3.36	3.32	3.27	3.23	3.19	3.14	3.10	3.05	3.01	2.97	2.92	2.88	2.83	2.79	2.75	2.70	2.66	2.61	2.57	2.53	2.48
61.0	3.21	3.39	3.50	3.45	3.41	3.36	3.32	3.28	3.23	3.19	3.14	3.10	3.06	3.01	2.97	2.92	2.88	2.84	2.79	2.75	2.70	2.66	2.62	2.57	2.53
61.5	3.25	3.43	3.54	3.50	3.46	3.41	3.37	3.32	3.28	3.24	3.19	3.15	3.10	3.06	3.02	2.97	2.93	2.88	2.84	2.80	2.75	2.71	2.66	2.62	2.58
62.0	3.29	3.48	3.59	3.55	3.50	3.46	3.41	3.37	3.33	3.28	3.24	3.19	3.15	3.11	3.06	3.02	2.97	2.93	2.89	2.84	2.80	2.75	2.71	2.67	2.62
62.5	3.33	3.52	3.64	3.59	3.55	3.51	3.46	3.42	3.37	3.33	3.29	3.24	3.20	3.15	3.11	3.07	3.02	2.98	2.93	2.89	2.85	2.80	2.76	2.71	2.67
63.0	3.38	3.56	3.68	3.64	3.60	3.55	3.51	3.46	3.42	3.38	3.33	3.29	3.24	3.20	3.16	3.11	3.07	3.02	2.98	2.94	2.89	2.85	2.80	2.76	2.72
63.5	3.42	3.60	3.73	3.69	3.64	3.60	3.56	3.51	3.47	3.42	3.38	3.34	3.29	3.25	3.20	3.16	3.12	3.07	3.03	2.98	2.94	2.90	2.85	2.81	2.76
64.0	3.46	3.64	3.78	3.73	3.69	3.65	3.60	3.56	3.51	3.47	3.43	3.38	3.34	3.29	3.25	3.21	3.16	3.12	3.07	3.03	2.99	2.94	2.90	2.85	2.81
64.5	3.50	3.69	3.83	3.78	3.74	3.69	3.65	3.61	3.56	3.52	3.47	3.43	3.39	3.34	3.30	3.25	3.21	3.17	3.12	3.08	3.03	2.99	2.95	2.90	2.86
65.0	3.54	3.73	3.87	3.83	3.78	3.74	3.70	3.65	3.61	3.56	3.52	3.48	3.43	3.39	3.34	3.30	3.26	3.21	3.17	3.12	3.08	3.04	2.99	2.95	2.90
65.5	3.59	3.77	3.92	3.88	3.83	3.79	3.74	3.70	3.66	3.61	3.57	3.52	3.48	3.44	3.39	3.35	3.30	3.26	3.22	3.17	3.13	3.08	3.04	3.00	2.95
66.0	3.63	3.81	3.97	3.92	3.88	3.83	3.79	3.75	3.70	3.66	3.61	3.57	3.53	3.48	3.44	3.39	3.35	3.31	3.26	3.22	3.17	3.13	3.09	3.04	3.00
66.5	3.67	3.85	4.01	3.97	3.93	3.88	3.84	3.79	3.75	3.71	3.66	3.62	3.57	3.53	3.49	3.44	3.40	3.35	3.31	3.27	3.22	3.18	3.13	3.09	3.05
67.0	3.71	3.89	4.06	4.02	3.97	3.93	3.88	3.84	3.80	3.75	3.71	3.66	3.62	3.58	3.53	3.49	3.44	3.40	3.36	3.31	3.27	3.22	3.18	3.14	3.09
67.5	3.75	3.94	4.11	4.06	4.02	3.98	3.93	3.89	3.84	3.80	3.76	3.71	3.67	3.62	3.58	3.54	3.49	3.45	3.40	3.36	3.32	3.27	3.23	3.18	3.14
68.0	3.79	3.98	4.15	4.11	4.07	4.02	3.98	3.93	3.89	3.85	3.80	3.76	3.71	3.67	3.63	3.58	3.54	3.49	3.45	3.41	3.36	3.32	3.27	3.23	3.19
68.5	3.84	4.02	4.20	4.16	4.11	4.07	4.03	3.98	3.94	3.89	3.85	3.81	3.76	3.72	3.67	3.63	3.59	3.54	3.50	3.45	3.41	3.37	3.32	3.28	3.23
69.0	3.88	4.06	4.25	4.20	4.16	4.12	4.07	4.03	3.98	3.94	3.90	3.85	3.81	3.76	3.72	3.68	3.63	3.59	3.54	3.50	3.46	3.41	3.37	3.32	3.28
69.5	3.92	4.10	4.30	4.25	4.21	4.16	4.12	4.08	4.03	3.99	3.94	3.90	3.86	3.81	3.77	3.72	3.68	3.64	3.59	3.55	3.50	3.46	3.42	3.37	3.33
70.0	3.96	4.15	4.34	4.30	4.25	4.21	4.17	4.12	4.08	4.03	3.99	3.95	3.90	3.86	3.81	3.77	3.73	3.68	3.64	3.59	3.55	3.51	3.46	3.42	3.37
70.5	4.00	4.19	4.39	4.35	4.30	4.26	4.21	4.17	4.13	4.08	4.04	3.99	3.95	3.91	3.86	3.82	3.77	3.73	3.69	3.64	3.60	3.55	3.51	3.47	3.42
71.0	4.05	4.23	4.44	4.39	4.35	4.30	4.26	4.22	4.17	4.13	4.08	4.04	4.00	3.95	3.91	3.86	3.82	3.78	3.73	3.69	3.64	3.60	3.56	3.51	3.47
71.5	4.09	4.27	4.48	4.44	4.40	4.35	4.31	4.26	4.22	4.18	4.13	4.09	4.04	4.00	3.96	3.91	3.87	3.82	3.78	3.74	3.69	3.65	3.60	3.56	3.52
72.0	4.13	4.31	4.53	4.49	4.44	4.40	4.35	4.31	4.27	4.22	4.18	4.13	4.09	4.05	4.00	3.96	3.91	3.87	3.83	3.78	3.74	3.69	3.65	3.61	3.56
72.5	4.17	4.36	4.58	4.53	4.49	4.45	4.40	4.36	4.31	4.27	4.23	4.18	4.14	4.09	4.05	4.01	3.96	3.92	3.87	3.83	3.79	3.74	3.70	3.65	3.61
73.0	4.21	4.40	4.62	4.58	4.54	4.49	4.45	4.40	4.36	4.32	4.27	4.23	4.18	4.14	4.10	4.05	4.01	3.96	3.92	3.88	3.83	3.79	3.74	3.70	3.66
73.5	4.26	4.44	4.67	4.63	4.58	4.54	4.50	4.45	4.41	4.36	4.32	4.28	4.23	4.19	4.14	4.10	4.06	4.01	3.97	3.92	3.88	3.84	3.79	3.75	3.70
74.0	4.30	4.48	4.72	4.67	4.63	4.59	4.54	4.50	4.45	4.41	4.37	4.32	4.28	4.23	4.19	4.15	4.10	4.06	4.01	3.97	3.93	3.88	3.84	3.79	3.75
74.5	4.34	4.52	4.77	4.72	4.68	4.63	4.59	4.55	4.50	4.46	4.41	4.37	4.33	4.28	4.24	4.19	4.15	4.11	4.06	4.02	3.97	3.93	3.89	3.84	3.80
75.0	4.38	4.57	4.81	4.77	4.72	4.68	4.64	4.59	4.55	4.50	4.46	4.42	4.37	4.33	4.28	4.24	4.20	4.15	4.11	4.06	4.02	3.98	3.93	3.89	3.84
75.5	4.42	4.61	4.86	4.82	4.77	4.73	4.68	4.64	4.60	4.55	4.51	4.46	4.42	4.38	4.33	4.29	4.24	4.20	4.16	4.11	4.07	4.02	3.98	3.94	3.89
76.0	4.47	4.65	4.91	4.86	4.82	4.77	4.73	4.69	4.64	4.60	4.55	4.51	4.47	4.42	4.38	4.33	4.29	4.25	4.20	4.16	4.11	4.07	4.03	3.98	3.94
76.5	4.51	4.69	4.95	4.91	4.87	4.82	4.78	4.73	4.69	4.65	4.60	4.56	4.51	4.47	4.43	4.38	4.34	4.29	4.25	4.21	4.16	4.12	4.07	4.03	3.99
77.0	4.55	4.73	5.00	4.96	4.91	4.87	4.82	4.78	4.74	4.69	4.65	4.60	4.56	4.52	4.47	4.43	4.38	4.34	4.30	4.25	4.21	4.16	4.12	4.08	4.03

TABLE 4. PREDICTED FEV1 FOR FEMALES (KNUDSON, ET AL: AM REV RESPIR DIS, 1976, 113, 587.)

	AGE																							
HT	17	19	21	23	25	27	29	31	33	35	37	39	41	43	45	47	49	51	53	55	57	59	61	63	65
52.0	2.31	2.48	2.33	2.29	2.25	2.21	2.16	2.12	2.08	2.04	2.00	1.95	1.91	1.87	1.83	1.79	1.74	1.70	1.66	1.62	1.58	1.53	1.49	1.45	1.41
52.5	2.34	2.51	2.37	2.32	2.28	2.24	2.20	2.16	2.11	2.07	2.03	1.99	1.95	1.90	1.86	1.82	1.78	1.74	1.69	1.65	1.61	1.57	1.53	1.48	1.44
53.0	2.38	2.55	2.40	2.36	2.32	2.27	2.23	2.19	2.15	2.11	2.06	2.02	1.98	1.94	1.90	1.85	1.81	1.77	1.73	1.69	1.64	1.60	1.56	1.52	1.48
53.5	2.41	2.58	2.43	2.39	2.35	2.31	2.27	2.22	2.18	2.14	2.10	2.06	2.01	1.97	1.93	1.89	1.85	1.80	1.76	1.72	1.68	1.64	1.59	1.55	1.51
54.0	2.45	2.62	2.47	2.43	2.38	2.34	2.30	2.26	2.22	2.17	2.13	2.09	2.05	2.01	1.96	1.92	1.88	1.84	1.80	1.75	1.71	1.67	1.63	1.59	1.54
54.5	2.48	2.65	2.50	2.46	2.42	2.38	2.33	2.29	2.25	2.21	2.17	2.12	2.08	2.04	2.00	1.96	1.91	1.87	1.83	1.79	1.75	1.70	1.66	1.62	1.58
55.0	2.51	2.68	2.54	2.49	2.45	2.41	2.37	2.33	2.28	2.24	2.20	2.16	2.12	2.07	2.03	1.99	1.95	1.91	1.86	1.82	1.78	1.74	1.70	1.65	1.61
55.5	2.55	2.72	2.57	2.53	2.49	2.45	2.40	2.36	2.32	2.28	2.24	2.19	2.15	2.11	2.07	2.03	1.98	1.94	1.90	1.86	1.82	1.77	1.73	1.69	1.65
56.0	2.58	2.75	2.61	2.56	2.52	2.48	2.44	2.40	2.35	2.31	2.27	2.23	2.19	2.14	2.10	2.06	2.02	1.98	1.93	1.89	1.85	1.81	1.77	1.72	1.68
56.5	2.62	2.79	2.64	2.60	2.56	2.51	2.47	2.43	2.39	2.35	2.30	2.26	2.22	2.18	2.14	2.09	2.05	2.01	1.97	1.93	1.88	1.84	1.80	1.76	1.72
57.0	2.65	2.02	2.67	2.63	2.59	2.55	2.51	2.46	2.42	2.38	2.34	2.30	2.25	2.21	2.17	2.13	2.09	2.04	2.00	1.96	1.92	1.88	1.83	1.79	1.75
57.5	2.69	2.86	2.71	2.67	2.62	2.58	2.54	2.50	2.46	2.41	2.37	2.33	2.29	2.25	2.20	2.16	2.12	2.08	2.04	1.99	1.95	1.91	1.87	1.83	1.78
58.0	2.72	2.89	2.74	2.70	2.66	2.62	2.57	2.53	2.49	2.45	2.41	2.36	2.32	2.28	2.24	2.20	2.15	2.11	2.07	2.03	1.99	1.94	1.90	1.86	1.82
58.5	2.75	2.92	2.78	2.73	2.69	2.65	2.61	2.57	2.52	2.48	2.44	2.40	2.36	2.31	2.27	2.23	2.19	2.15	2.10	2.06	2.02	1.98	1.94	1.89	1.85
59.0	2.79	2.96	2.81	2.77	2.73	2.69	2.64	2.60	2.56	2.52	2.48	2.43	2.39	2.35	2.31	2.27	2.22	2.18	2.14	2.10	2.06	2.01	1.97	1.93	1.89
59.5	2.82	2.99	2.85	2.80	2.76	2.72	2.68	2.64	2.59	2.55	2.51	2.47	2.43	2.38	2.34	2.30	2.26	2.22	2.17	2.13	2.09	2.05	2.01	1.96	1.92
60.0	2.86	3.03	2.88	2.84	2.80	2.75	2.71	2.67	2.63	2.59	2.54	2.50	2.46	2.42	2.38	2.33	2.29	2.25	2.21	2.17	2.12	2.08	2.04	2.00	1.96
60.5	2.89	3.06	2.91	2.87	2.83	2.79	2.75	2.70	2.66	2.62	2.58	2.54	2.49	2.45	2.41	2.37	2.33	2.28	2.24	2.20	2.16	2.12	2.07	2.03	1.99
61.0	2.93	3.10	2.95	2.91	2.86	2.82	2.78	2.74	2.70	2.65	2.61	2.57	2.53	2.49	2.44	2.40	2.36	2.32	2.28	2.23	2.19	2.15	2.11	2.07	2.02
61.5	2.96	3.13	2.98	2.94	2.90	2.86	2.81	2.77	2.73	2.69	2.65	2.60	2.56	2.52	2.48	2.44	2.39	2.35	2.31	2.27	2.23	2.18	2.14	2.10	2.06
62.0	2.99	3.16	3.02	2.97	2.93	2.89	2.85	2.81	2.76	2.72	2.68	2.64	2.60	2.55	2.51	2.47	2.43	2.39	2.34	2.30	2.26	2.22	2.18	2.13	2.09
62.5	3.03	3.20	3.05	3.01	2.97	2.93	2.88	2.84	2.80	2.76	2.72	2.67	2.63	2.59	2.55	2.51	2.46	2.42	2.38	2.34	2.30	2.25	2.21	2.17	2.13
63.0	3.06	3.23	3.09	3.04	3.00	2.96	2.92	2.88	2.83	2.79	2.75	2.71	2.67	2.62	2.58	2.54	2.50	2.46	2.41	2.37	2.33	2.29	2.25	2.20	2.16
63.5	3.10	3.27	3.12	3.08	3.04	2.99	2.95	2.91	2.87	2.83	2.78	2.74	2.70	2.66	2.62	2.57	2.53	2.49	2.45	2.41	2.36	2.32	2.28	2.24	2.20
64.0	3.13	3.30	3.15	3.11	3.07	3.03	2.99	2.94	2.90	2.86	2.82	2.78	2.73	2.69	2.65	2.61	2.57	2.52	2.48	2.44	2.40	2.36	2.31	2.27	2.23
64.5	3.17	3.34	3.19	3.15	3.10	3.06	3.02	2.98	2.94	2.89	2.85	2.81	2.77	2.73	2.68	2.64	2.60	2.56	2.52	2.47	2.43	2.39	2.35	2.31	2.26
65.0	3.20	3.37	3.22	3.18	3.14	3.10	3.05	3.01	2.97	2.93	2.89	2.84	2.80	2.76	2.72	2.68	2.63	2.59	2.55	2.51	2.47	2.42	2.38	2.34	2.30
65.5	3.23	3.40	3.26	3.21	3.17	3.13	3.09	3.05	3.00	2.96	2.92	2.88	2.84	2.79	2.75	2.71	2.67	2.63	2.58	2.54	2.50	2.46	2.42	2.37	2.33
66.0	3.27	3.44	3.29	3.25	3.21	3.17	3.12	3.08	3.04	3.00	2.96	2.91	2.87	2.83	2.79	2.75	2.70	2.66	2.62	2.58	2.54	2.49	2.45	2.41	2.37
66.5	3.30	3.47	3.33	3.28	3.24	3.20	3.16	3.12	3.07	3.03	2.99	2.95	2.91	2.86	2.82	2.78	2.74	2.70	2.65	2.61	2.57	2.53	2.49	2.44	2.40
67.0	3.34	3.51	3.36	3.32	3.28	3.23	3.19	3.15	3.11	3.07	3.02	2.98	2.94	2.90	2.86	2.81	2.77	2.73	2.69	2.65	2.60	2.56	2.52	2.48	2.44
67.5	3.37	3.54	3.39	3.35	3.31	3.27	3.23	3.18	3.14	3.10	3.06	3.02	2.97	2.93	2.89	2.85	2.81	2.76	2.72	2.68	2.64	2.60	2.55	2.51	2.47
68.0	3.41	3.58	3.43	3.39	3.34	3.30	3.26	3.22	3.18	3.13	3.09	3.05	3.01	2.97	2.92	2.88	2.84	2.80	2.76	2.71	2.67	2.63	2.59	2.55	2.50
68.5	3.44	3.61	3.46	3.42	3.38	3.34	3.29	3.25	3.21	3.17	3.13	3.08	3.04	3.00	2.96	2.92	2.87	2.83	2.79	2.75	2.71	2.66	2.62	2.58	2.54
69.0	3.47	3.64	3.50	3.46	3.41	3.37	3.33	3.29	3.25	3.20	3.16	3.12	3.08	3.04	2.99	2.95	2.91	2.87	2.83	2.78	2.74	2.70	2.66	2.62	2.57
69.5	3.51	3.68	3.53	3.49	3.45	3.41	3.36	3.32	3.28	3.24	3.20	3.15	3.11	3.07	3.03	2.99	2.94	2.90	2.86	2.82	2.78	2.73	2.69	2.65	2.61
70.0	3.54	3.71	3.57	3.52	3.48	3.44	3.40	3.36	3.31	3.27	3.23	3.19	3.15	3.10	3.06	3.02	2.98	2.94	2.89	2.85	2.81	2.77	2.73	2.68	2.64
70.5	3.58	3.75	3.60	3.56	3.52	3.47	3.43	3.39	3.35	3.31	3.26	3.22	3.18	3.14	3.10	3.05	3.01	2.97	2.93	2.89	2.84	2.80	2.76	2.72	2.68
71.0	3.61	3.78	3.63	3.59	3.55	3.51	3.47	3.42	3.38	3.34	3.30	3.26	3.21	3.17	3.13	3.09	3.05	3.00	2.96	2.92	2.88	2.84	2.79	2.75	2.71
71.5	3.65	3.82	3.67	3.63	3.58	3.54	3.50	3.46	3.42	3.37	3.33	3.29	3.25	3.21	3.16	3.12	3.08	3.04	3.00	2.95	2.91	2.87	2.83	2.79	2.74
72.0	3.68	3.85	3.70	3.66	3.62	3.58	3.53	3.49	3.45	3.41	3.37	3.32	3.28	3.24	3.20	3.16	3.11	3.07	3.03	2.99	2.95	2.90	2.86	2.82	2.78
72.5	3.71	3.88	3.74	3.70	3.65	3.61	3.57	3.53	3.49	3.44	3.40	3.36	3.32	3.28	3.23	3.19	3.15	3.11	3.07	3.02	2.98	2.94	2.90	2.86	2.81
73.0	3.75	3.92	3.77	3.73	3.69	3.65	3.60	3.56	3.52	3.48	3.44	3.39	3.35	3.31	3.27	3.23	3.18	3.14	3.10	3.06	3.02	2.97	2.93	2.89	2.85
73.5	3.78	3.95	3.81	3.76	3.72	3.68	3.64	3.60	3.55	3.51	3.47	3.43	3.39	3.34	3.30	3.26	3.22	3.18	3.13	3.09	3.05	3.01	2.97	2.92	2.88
74.0	3.82	3.99	3.84	3.80	3.76	3.71	3.67	3.63	3.59	3.55	3.50	3.46	3.42	3.38	3.34	3.29	3.25	3.21	3.17	3.13	3.08	3.04	3.00	2.96	2.92
74.5	3.85	4.02	3.87	3.83	3.79	3.75	3.71	3.66	3.62	3.58	3.54	3.50	3.45	3.41	3.37	3.33	3.29	3.24	3.20	3.16	3.12	3.08	3.03	2.99	2.95
75.0	3.89	4.06	3.91	3.87	3.82	3.78	3.74	3.70	3.66	3.61	3.57	3.53	3.49	3.45	3.40	3.36	3.32	3.28	3.24	3.19	3.15	3.11	3.07	3.03	2.98
75.5	3.92	4.09	3.94	3.90	3.86	3.82	3.77	3.73	3.69	3.65	3.61	3.56	3.52	3.48	3.44	3.40	3.35	3.31	3.27	3.23	3.19	3.14	3.10	3.06	3.02
76.0	3.95	4.12	3.98	3.94	3.89	3.85	3.81	3.77	3.73	3.68	3.64	3.60	3.56	3.52	3.47	3.43	3.39	3.35	3.31	3.26	3.22	3.18	3.14	3.10	3.05
76.5	3.99	4.16	4.01	3.97	3.93	3.89	3.84	3.80	3.76	3.72	3.68	3.63	3.59	3.55	3.51	3.47	3.42	3.38	3.34	3.30	3.26	3.21	3.17	3.13	3.09
77.0	4.02	4.19	4.05	4.00	3.96	3.92	3.88	3.84	3.79	3.75	3.71	3.67	3.63	3.58	3.54	3.50	3.46	3.42	3.37	3.33	3.29	3.25	3.21	3.16	3.12

[4510-26-M]

Appendix D—Pulmonary Function Standards for Cotton Dust Standard

The spirometric measurements of pulmonary function shall conform to the following minimum standards, and these standards are not intended to preclude additional testing or alternate methods which can be determined to be superior.

I. APPARATUS

a. The instrument shall be accurate to within ±50 milliliters or within ±3 percent of reading, whichever is greater.

b. The instrument should be capable of measuring vital capacity from 0 to 7 liters BTPS.

c. The instrument shall have a low inertia and offer low resistance to airflow such that the resistance to airflow at 12 liters per second must be less than 1.5 cm H_2O/(liter/sec).

d. The zero time point for the purpose of timing the FEV$_1$ shall be determined by extrapolating the steepest portion of the volume time curve back to the maximal inspiration volume (1, 2, 3, 4) or by an equivalent method.

e. Instruments incorporating measurements of airflow to determine volume shall conform to the same volume accuracy stated in (a) of this section when presented with flow rates from at least 0 to 12 liters per second.

f. The instrument or user of the instrument must have a means of correcting volumes to body temperature saturated with water vapor (BTPS) under conditions of varying ambient spirometer temperatures and barometric pressures.

g. The instrument used shall provide a tracing or display of either flow versus volume or volume versus time during the entire forced expiration. A tracing or display is necessary to determine whether the patient has performed the test properly. The tracing must be stored and available for recall and must be of sufficient size that hand measurements may be made within requirement of paragraph (a) of this section. If a paper record is made it must have a paper speed of at least 2 cm/sec and a volume sensitivity of at least 10.0 mm of chart per liter of volume.

h. The instrument shall be capable of accumulating volume for a minimum of 10 seconds and shall not stop accumulating volume before (1) the volume change for a 0.5 second interval is less than 25 milliliters, or (2) the flow is less than 50 milliliters per second for a 0.5 second interval.

i. The forced vital capacity (FVC) and forced expiratory volume in 1 second (FEV$_{1.0}$) measurements shall comply with the accuracy requirements stated in paragraph (a) of this section. That is, they should be accurately measured to within ±50 ml or within ±3 percent of reading, whichever is greater.

j. The instrument must be capable of being calibrated in the field with respect to the FEV$_1$ and FVC. This calibration of the FEV$_1$ and FVC may be either directly or indirectly through volume and time base measurements. The volume calibration source should provide a volume displacement of at least 2 liters and should be accurate to within ±30 milliliters.

II. TECHNIQUE FOR MEASUREMENT OF FORCED VITAL CAPACITY MANEUVER

a. Use of a nose clip is recommended but not required. The procedures shall be explained in simple terms to the patient who shall be instructed to loosen any tight clothing and stand in front of the apparatus. The subject may sit, but care should be taken on repeat testing that the same position be used and, if possible, the same spirometer. Particular attention shall be given to insure that the chin is slightly elevated with the neck slightly extended. The patient shall be instructed to make a full inspiration from a normal breathing pattern and then blow into the apparatus, without interruption, as hard, fast, and completely as possible. At least three forced expirations shall be carried out. During the maneuvers, the patient shall be observed for compliance with instruction. The expirations shall be checked visually for reproducibility from flow-volume or volume-time tracings or displays. The following efforts shall be judged unacceptable when the patient:

1. Has not reached full inspiration preceding the forced expiration,

2. Has not used maximal effort during the entire forced expiration,

3. Has not continued the expiration for at least 5 seconds or until an obvious plateau in the volume time curve has occurred,

4. Has coughed or closed his glottis,

5. Has an obstructed mouthpiece or a leak around the mouthpiece (obstruction due to tongue being placed in front of mouthpiece, false teeth falling in front of mouthpiece, etc.)

6. Has an unsatisfactory start of expiration, one characterized by excessive hesitation (or false starts), and therefore not allowing back extrapolation of time 0 (extrapolated volume on the volume time tracing must be less than 10 percent of the FVC.)

7. Has an excessive variability between the three acceptable curves. The variation between the two largest FVC's and FEV$_1$'s of the three satisfactory tracings should not exceed 10 percent or ± 100 milliliters, whichever is greater.

b. Periodic and routine recalibration of the instrument or method for recording FVC and FEV$_{1.0}$ should be performed using a syringe or other volume source of at least 2 liters.

III. INTERPRETATION OF SPIROGRAM

a. The first step in evaluating a spirogram should be to determine whether or not the patient has performed the test properly or as described in II above. From the three satisfactory tracings, the forced vital capacity (FVC) and forced expiratory volume in 1 second (FEV$_{1.0}$) shall be measured and recorded. The largest observed FVC and largest observed FEV$_1$ shall be used in the analysis regardless of the curve(s) on which they occur.

b. The following guidelines are recommended by NIOSH for the evaluation and management of workers exposed to cotton dust. It is important to note that employees who show reductions in FEV$_1$/FVC ratio below .75 or drops in Monday FEV$_1$ of 5 percent or greater on their initial screening exam, should be re-evaluated within a month of the first exam. Those who show consistent decrease in lung function, as shown on the following table, should be managed as recommended.

IV. QUALIFICATIONS OF PERSONNEL ADMINISTERING THE TEST

Technicians who perform pulmonary function testing should have the basic knowledge required to produce meaningful results. Training consisting of approximately 16 hours of formal instruction should cover the following areas. Persons who successfully complete the course will be certified by OSHA or their designee.

a. Basic physiology of the forced vital capacity maneuver and the determinants of airflow limitation with emphasis on the relation to reproducibility of results.

b. Instrumentation requirements including calibration procedures, sources of error and their correction.

c. Performance of the testing including subject coaching, recognition of improperly performed maneuvers and corrective actions.

d. Data quality with emphasis on reproducibility.

e. Actual use of the equipment under supervised conditions.

f. Measurement of tracings and calculations of results.

§ 1910.1044 1,2-dibromo-3-chloropropane.

(a) *Scope and application.* (1) This section applies to occupational exposure to 1,2-dibromo-3-chloropropane (DBCP).

(2) This section does not apply to:

(i) Exposure to DBCP which results solely from the application and use of DBCP as a pesticide; or

(ii) The storage, transportation, distribution or sale of DBCP in intact containers sealed in such a manner as to prevent exposure to DBCP vapors or liquid, except for the requirements of paragraphs (i), (n) and (o) of this section.

(b) *Definitions.* "Authorized person" means any person required by his duties to be present in regulated areas and authorized to do so by his employer, by this section, or by the Act. "Authorized person" also includes any person entering such areas as a designated representative of employees exercising an opportunity to observe employee exposure monitoring.

"DBCP" means 1,2-dibromo-3-chloropropane, Chemical Abstracts Service Registry Number 96-12-8, and includes all forms of DBCP.

"Director" means the Director, National Institute for Occupational Safety and Health, U.S. Department of Health, Education and Welfare, or designee.

"Emergency" means any occurrence such as, but not limited to equipment failure, rupture of containers, or failure of control equipment which may, or does, result in an unexpected release of DBCP.

"OSHA Area Office" means the Area Office of the Occupational Safety and Health Administration having jurisdiction over the geographic area where the affected workplace is located.

"Assistant Secretary" means the Assistant Secretary of Labor for Occupational Safety and Health, U.S. Department of Labor, or designee.

(c) *Permissible exposure limit*—(1) *Inhalation*. The employer shall assure that no employee is exposed to an airborne concentration of DBCP in excess of 1 part DBCP per billion parts of air (ppb) as an 8-hour time-weighted average.

(2) *Dermal and eye exposure*. The employer shall assure that no employee is exposed to eye or skin contact with DBCP.

(d) *Notification of use*. Within ten (10) days following the introduction of DBCP into the workplace, every employer who has a workplace where DBCP is present, shall report the following information to the nearest OSHA Area Office for each such workplace;

(1) The address and location of the workplace:

(2) A brief description of each process or operation which may result in employee exposure to DBCP;

(3) The number of employees engaged in each process or operation who may be exposed to DBCP and an estimate of the frequency and degree of exposure that occurs; and

(4) A brief description of the employer's safety and health program as it relates to limitation of employee exposure to DBCP.

(e) *Regulated areas*. (1) The employer shall establish, within each place of employment, regulated areas wherever DBCP concentrations are in excess of the permissible exposure limit.

(2) The employer shall limit access to regulated areas to authorized persons.

(f) *Exposure monitoring*—(1) *General*. (i) Determinations of airborne exposure levels shall be made from air samples that are representative of each employee's exposure to DBCP over an 8-hour period.

(ii) For the purposes of this paragraph, employee exposure is that exposure which would occur if the employee were not using a respirator.

(2) *Initial*. Each employer who has a place of employment in which DBCP is present, shall monitor each workplace and work operation to accurately determine the airborne concentrations of DBCP to which employees may be exposed.

(3) *Frequency*. (i) If the monitoring required by this section reveals employee exposures to be below the permissible exposure limit, the employer shall repeat these measurements at least quarterly.

(ii) If the monitoring required by this section reveals employee exposures to be in excess of the permissible exposure limit, the employer shall repeat these measurements for each such employee at least monthly. The employer shall continue monthly monitoring until at least two consecutive measurements, taken at least seven (7) days apart, are below the permissible exposure limit. Thereafter the employer shall monitor at least quarterly.

(4) *Additional*. Whenever there has been a production, process, control, or personnel change which may result in any new or additional exposure to DBCP, or whenever the employer has any reason to suspect new or additional exposures to DBCP, the employer shall monitor the employees potentially affected by such change for the purpose of redetermining their exposure.

(5) *Employee notification*. (i) Within five (5) working days after the receipt of monitoring results, the employer shall notify each employee in writing of the measurements which represent the employee's exposure.

(ii) Whenever the results indicate that employee exposure exceeds the permissible exposure limit, the employer shall include in the written notice a statement that the permissible exposure limit was exceeded and a description of the corrective action being taken to reduce exposure to or below the permissible exposure limit.

(6) *Accuracy of measurement*. The employer shall use a method of measurement which has an accuracy, to a confidence level of 95 percent, of not less than plus or minus 25 percent for concentrations of DBCP at or above the permissible exposure limit.

(g) *Methods of compliance*—(1) *Priority of compliance methods*. The employer shall institute engineering and work practice controls to reduce and maintain employee exposures to DBCP at or below the permissible exposure limit, except to the extent that the employer establishes that such controls are not feasible. Where feasible engineering and work practice controls are not sufficient to reduce employee exposures to within the permissible exposure limit, the employer shall nonetheless use them to reduce exposures to the lowest level achievable by these controls, and shall supplement them by use of respiratory protection.

(2) *Compliance program*. (i) The employer shall establish and implement a written program to reduce employee exposures to DBCP to or below the permissible exposure limit solely by means of engineering and work practice controls as required by paragraph (g)(1) of this section.

(ii) The written program shall include a detailed schedule for development and implementation of the engineering and work practice controls. These plans shall be revised at least every six months to reflect the current status of the program.

(iii) Written plans for these compliance programs shall be submitted upon request to the Assistant Secretary and the Director, and shall be available at the worksite for examination and copying by the Assistant Secretary, the Director, and any affected employee or designated representative of employees.

(iv) The employer shall institute and maintain at least the controls described in his most recent written compliance program.

(h) *Respirators*—(1) *General*. Where respiratory protection is required under this section, the employer shall select, provide and assure the proper use of respirators. Respirators shall be used in the following circumstances:

(i) During the period necessary to install or implement feasible engineering and work practice controls; or

(ii) During maintenance and repair activities in which engineering and work practice controls are not feasible; or

(iii) In work situations where feasible engineering and work practice controls are not yet sufficient to reduce exposure to or below the permissible exposure limit; or

(iv) In emergencies.

(2) *Respirator selection*. (i) Where respirators are required under this section, the employer shall select and provide, at no cost to the employee, the appropriate respirator from Table 1 below and shall assure that the employee uses the respirator provided.

(ii) The employer shall select respirators from among those approved by the National Institute for Occupational Safety and Health (NIOSH) under the provisions of 30 CFR Part 11.

TABLE 1.—*Respiratory protection for DBCP*

Airborne concentration of DBCP or condition of use	Respirator type
(a) Less than or equal to 10 ppb.	(1) Any supplied-air respirator or (2) any self-contained breathing apparatus.
(b) Less than or equal to 50 ppb.	(1) Any supplied-air respirator with full facepiece, helmet, or hood; or (2) any self-contained breathing apparatus with full facepiece.
(c) Less than or equal to 1,000 ppb.	(1) A Type C supplied-air respirator operated in pressure-demand or other positive pressure or continuous flow mode.
(d) Less than or equal to 2,000 ppb.	(1) A Type C supplied-air respirator with full facepiece operated in pressure-demand or other positive pressure mode, or with full facepiece, helmet, or hood operated in continuous flow mode.

TABLE 1.—*Respiratory protection for DBCP*—Continued

Airborne concentration of DBCP or condition of use	Respirator type
(e) Greater than 2,000 ppb or entry and escape from unknown concentrations.	(1) A combination respirator which includes a Type C supplied-air respirator with full facepiece operated in pressure-demand or other positive pressure or continuous flow mode and an auxiliary self-contained breathing apparatus operated in pressure-demand or positive pressure mode; or (2) a self-contained breathing apparatus with full facepiece operated in pressure-demand or other positive pressure mode.
(f) Firefighting..................	(1) A self-contained breathing apparatus with full facepiece operated in pressure-demand or other positive pressure mode.

(3) *Respirator program.* (i) The employer shall institute a respiratory protection program in accordance with 29 CFR 1910.134 (b), (d), (e), and (f).

(ii) Employees who wear respirators shall be allowed to wash their faces and respirator facepieces as needed to prevent potential skin irritation associated with respirator use.

(i) *Emergency situations*—(1) *Written plan.* (i) A written plan for emergency situations shall be developed for each workplace in which DBCP is present.

(ii) Appropriate portions of the plan shall be implemented in the event of an emergency.

(2) Employees engaged in correcting emergency conditions shall be equipped as required in paragraphs (h) and (j) of this section until the emergency is abated.

(3) *Evacuation.* Employees not engaged in correcting the emergency shall be removed and restricted from the area and normal operations in the affected area shall not be resumed until the emergency is abated.

(4) *Alerting employees.* Where there is a possibility of employee exposure to DBCP due to the occurrence of an emergency, a general alarm shall be installed and maintained to promptly alert employees of such occurrences.

(5) *Medical surveillance.* For any employee exposed to DBCP in an emergency situation, the employer shall provide medical surveillance in accordance with paragraph (m)(6) of this section.

(6) *Exposure monitoring.* (i) Following an emergency, the employer shall conduct monitoring which complies with paragraph (f) of this section.

(ii) In workplaces not normally subject to periodic monitoring, the employer may terminate monitoring when two consecutive measurements indicate exposures below the permissible exposure limit.

(j) *Protective clothing and equipments*—(1) *Provision and use.* Where there is any possibility of eye or dermal contact with liquid or solid DBCP, the employer shall provide, at no cost to the employee, and assure that the employee wears impermeable protective clothing and equipment to protect the area of the body which may come in contact with DBCP. Eye and face protection shall meet the requirements of § 1910.133 of this part.

(2) *Removal and storage.* (i) The employer shall assure that employees remove DBCP contaminated work clothing only in change rooms provided in accordance with paragraph (l)(1) of this section.

(ii) The employer shall assure that employees promptly remove any protective clothing and equipment which becomes contaminated with DBCP-containing liquids and solids. This clothing shall not be reworn until the DBCP has been removed from the clothing or equipment.

(iii) The employer shall assure that no employee takes DBCP contaminated protective devices and work clothing out of the change room, except those employees authorized to do so for the purpose of laundering, maintenance, of disposal.

(iv) DBCP-contaminated protective devices and work clothing shall be placed and stored in closed containers which prevent dispersion of the DBCP outside the container.

(v) Containers of DBCP contaminated protective devices or work clothing which are to be taken out of change rooms or the workplace for cleaning, maintenance or disposal, shall bear labels in accordance with paragraph (o)(3) of this section.

(3) *Cleaning and replacement.* (i) The employer shall clean, launder, repair, or replace protective clothing and equipment required by this paragraph to maintain their effectiveness. The employer shall provide clean protective clothing and equipment at least daily to each affected employee.

(ii) The employer shall inform any person who launders or cleans DBCP-contaminated protective clothing or equipment of the potentially harmful effects of exposure to DBCP.

(iii) The employer shall prohibit the removal of DBCP from protective clothing and equipment by blowing or shaking.

(k) *Housekeeping*—(1) *Surfaces.* (i) All workplace surfaces shall be maintained free of visible accumulations of DBCP.

(ii) Dry sweeping and the use of compressed air for the cleaning of floors and other surfaces is prohibited where DBCP dusts or liquids are present.

(iii) Where vacuuming methods are selected to clean floors and other surfaces, either portable units or a permanent system may be used.

(A) If a portable unit is selected, the exhaust shall be attached to the general workplace exhaust ventilation system or collected within the vacuum unit, equipped with high efficiency filters or other appropriate means of contaminant removal, so that DBCP is not reintroduced into the workplace air; and

(B) Portable vacuum units used to collect DBCP may not be used for other cleaning purposes and shall be labeled as prescribed by paragraph (o)(3) of this section.

(iv) Cleaning of floors and other surfaces contaminated with DBCP-containing dusts shall not be performed by washing down with a hose, unless a fine spray has first been laid down.

(2) *Liquids.* Where DBCP is present in a liquid form, or as a resultant vapor, all containers or vessels containing DBCP shall be enclosed to the maximum extent feasible and tightly covered when not in use.

(3) *Waste disposal.* DBCP waste scrap, debris, containers or equipment, shall be disposed of in sealed bags or other closed containers which prevent dispersion of DBCP outside the container.

(l) *Hygiene facilities and practices*—(1) *Change rooms.* The employer shall provide clean change rooms equipped with storage facilities for street clothes and separate storage facilities for protective clothing and equipment whenever employees are required to wear protective clothing and equipment in accordance with paragraphs (h) and (j) of this section.

(2) *Showers.* (i) The employer shall assure that employees working in the regulated area shower at the end of the work shift.

(ii) The employer shall assure that employees whose skin becomes contaminated with DBCP-containing liquids or solids immediately wash or shower to remove any DBCP from the skin.

(iii) The employer shall provide shower facilities in accordance with 29 CFR 1910.141(d)(3).

(3) *Lunchrooms.* The employer shall provide lunchroom facilities which have a temperature controlled, positive pressure, filtered air supply, and which are readily accessible to employees working in regulated areas.

(4) *Lavatories.* (i) The employer shall assure that employees working in the regulated area remove protective

clothing and wash their hands and face prior to eating.

(ii) The employer shall provide a sufficient number of lavatory facilities which comply with 29 CFR 1910.141(d) (1) and (2).

(5) *Prohibition of activities in regulated areas.* The employer shall assure that, in regulated areas, food or beverages are not present or consumed, smoking products and implements are not present or used, and cosmetics are not present or applied.

(m) *Medical surveillance*—(1) *General.* (i) The employer shall make available a medical surveillance program for employees who work in regulated areas and employees who are subjected to DBCP exposures in an emergency situation.

(ii) All medical examinations and procedures shall be performed by or under the supervision of a licensed physician, and shall be provided without cost to the employee.

(2) *Frequency and content.* At the time of initial assignment, and annually thereafter, the employer shall provide a medical examination for employees who work in regulated areas, which includes at least the following:

(i) A medical and occupational history including reproductive history.

(ii) A physical examination, including examination of the genito-urinary tract, testicle size and body habitus, including a determination of sperm count.

(iii) A serum specimen shall be obtained and the following determinations made by radioimmunoassay techniques utilizing National Institutes of Health (NIH) specific antigen or one of equivalent sensitivity:

(A) Serum follicle stimulating hormone (FSH);

(B) Serum luteinizing hormone (LH); and

(C) Serum total estrogen (females).

(iv) Any other tests deemed appropriate by the examining physician.

(3) *Additional examinations.* If the employee for any reason develops signs or symptoms commonly associated with exposure to DBCP, the employer shall provide the employee with a medical examination which shall include those elements considered appropriate by the examining physician.

(4) *Information provided to the physician.* The employer shall provide the following information to the examining physician:

(i) A copy of this regulation and its appendices;

(ii) A description of the affected employee's duties as they relate to the employee's exposure;

(iii) The level of DBCP to which the employee is exposed; and

(iv) A description of any personal protective equipment used or to be used.

(5) *Physician's written opinion.* (i) For each examination under this section, the employer shall obtain and provide the employee with a written opinion from the examining physician which shall include:

(A) The results of the medical tests performed;

(B) The physician's opinion as to whether the employee has any detected medical condition which would place the employee at an increased risk of material impairment of health from exposure to DBCP; and

(C) Any recommended limitations upon the employee's exposure to DBCP or upon the use of protective clothing and equipment such as respirators.

(ii) The employer shall instruct the physician not to reveal in the written opinion specific findings or diagnoses unrelated to occupational exposure.

(6) *Emergency situations.* If the employee is exposed to DBCP in an emergency situation, the employer shall provide the employee with a sperm count test as soon as practicable, or, if the employee has been vasectionized or is unable to produce a semen specimen, the hormone tests contained in paragraph (m)(2)(iii) of this section. The employer shall provide these same tests three months later.

(n) *Employee information and training*—(1) *Training program.* (i) The employer shall institute a training program for all employees who may be exposed to DBCP and shall assure their participation in such training program.

(ii) The employer shall assure that each employee is informed of the following:

(*a*) The information contained in Appendix A;

(*b*) The quantity, location, manner of use, release or storage of DBCP and the specific nature of operations which could result in exposure to DBCP as well as any necessary protective steps;

(*c*) The purpose, proper use, and limitations of respirators;

(*d*) The purpose and description of the medical surveillance program required by paragraph (m) of this section; and

(*e*) A review of this standard, including appendices.

(2) *Access to training materials.* (i) The employer shall make a copy of this standard and its appendices readily available to all affected employees.

(ii) The employer shall provide, upon request, all materials relating to the employee information and training program to the Assistant Secretary and the Director.

(o) *Signs and labels*—(1) *General.* (i) The employer may use labels or signs required by other statutes, regulations, or ordinances in addition to or in combination with, signs and labels required by this paragraph.

(ii) The employer shall assure that no statement appears on or near any sign or label required by this paragraph which contradicts or detracts from the required sign or label.

(2) *Signs.* (i) The employer shall post signs to clearly indicate all regulated areas. These signs shall bear the legend:

DANGER

1,2-Dibromo-3-chloropropane

(*Insert appropriate trade or common names*)

CANCER HAZARD

AUTHORIZED PERSONNEL ONLY

RESPIRATOR REQUIRED

(3) *Labels.* (i) The employer shall assure that precautionary labels are affixed to all containers of DBCP and of products containing DBCP in the workplace, and that the labels remain affixed when the DBCP or products containing DBCP are sold, distributed, or otherwise leave the employer's workplace. Where DBCP or products containing DBCP are sold, distributed or otherwise leave the employer's workplace bearing appropriate labels required by EPA under the regulations in 40 CFR Part 162, the labels required by this paragraph need not be affixed.

(ii) The employer shall assure that the precautionary labels required by this paragraph are readily visible and legible. The labels shall bear the following legend:

DANGER

1,2-Dibromo-3-chloropropane

CANCER HAZARD

(p) *Recordkeeping*—(1) *Exposure monitoring.* (i) The employer shall establish and maintain an accurate record of all monitoring required by paragraph (f) of this section.

(ii) This record shall include:

(A) The dates, number, duration and results of each of the samples taken, including a description of the sampling procedure used to determine representative employee exposure;

(B) A description of the sampling and analytical methods used;

(C) Type of respiratory protective devices worn, if any; and

(D) Name, social security number, and job classification of the employee monitored and of all other employees whose exposure the measurement is intended to represent.

(iii) The employer shall maintain this record for at least 40 years or the duration of employment plus 20 years, whichever is longer.

(2) *Medical surveillance.* (i) The employer shall establish and maintain an accurate record for each employee subject to medical surveillance required by paragraph (m) of this section.

(ii) This record shall include:

(*a*) The name and social security number of the employee;

(*b*) A copy of the physician's written opinion;

(*c*) Any employee medical complaints related to exposure to DBCP;

(*d*) A copy of the information provided the physician as required by paragraphs (m)(4)(ii) through (m)(4)(iv) of this section; and

(*e*) A copy of the employee's medical and work history.

(iii) The employer shall maintain this record for at least 40 years or the duration of employment plus 20 years, whichever is longer.

(3) *Availability.* (i) The employer shall assure that all records required to be maintained by this section be made available upon request to the Assistant Secretary and the Director for examination and copying.

(ii) The employer shall assure that all employee exposure monitoring records required by this section be made available for examination and copying to affected employees or their designated representatives.

(iii) The employer shall assure that former employees and former employee's designated representatives have access to such records as will indicate the former employee's own exposure to DBCP.

(iv) The employer shall assure that employee medical records required to be maintained by this section be made available, upon request, for examination and copying to the employee or former employee and to a physician or other individual designated by the affected employee or former employee.

(4) *Transfer of records.* (i) If the employer ceases to do business, the successor employer shall receive and retain all records required to be maintained by paragraph (p) of this section for the prescribed period.

(ii) If the employer ceases to do business and there is no successor employer to receive and retain the records for the prescribed period, the employer shall transmit these records by mail to the Director.

(iii) At the expiration of the retention period for the records required to be maintained under paragraph (p) of this section, the employer shall transmit these records by mail to the Director.

(q) *Observation of monitoring*—(1) *Employee observation.* The employer shall provide affected employees, or their designated representatives, with an opportunity to observe any monitoring of employee exposure to DBCP required by this section.

(2) *Observation procedures.* (i) Whenever observation of the measuring or monitoring of employee exposure to DBCP requires entry into an area where the use of protective clothing or equipment is required, the employer shall provide the observer with personal protective clothing or equipment required to be worn by employees working in the area, assure the use of such clothing and equipment, and require the observer to comply with all other applicable safety and health procedures.

(ii) Without interfering with the monitoring or measurement, observers shall be entitled to:

(*a*) Receive an explanation of the measurement procedures;

(*b*) Observe all steps related to the measurement of airborne concentrations of DBCP performed at the place of exposure; and

(*c*) Record the results obtained.

(r) *Appendices.* The information contained in the appendices is not intended, by itself, to create any additional obligations not otherwise imposed or to detract from any existing obligation.

APPENDIX A—SUBSTANCE SAFETY DATA SHEET FOR DBCP

I. SUBSTANCE IDENTIFICATION

A. Synonyms and trades names: DBCP; Dibromochloropropane; Fumazone (Dow Chemical Company TM); Nemafume; Nemagon (Shell Chemical Co. TM); Nemaset; BBC 12; and OS 1879.

B. Permissible exposure:

1. *Airborne.* 1 part DBCP vapor per billion parts of air (1 ppb); time-weighted average (TWA) for an 8-hour workday.

2. *Dermal.* Eye contact and skin contact with DBCP are prohibited.

C. Appearance and odor: Technical grade DBCP is a dense yellow or amber liquid with a pungent odor. It may also appear in granular form, or blended in varying concentrations with other liquids.

D. Uses: DBCP is used to control nematodes, very small worm-like plant parasites, on crops including cotton, soybeans, fruits, nuts, vegetables and ornamentals.

II. HEALTH HAZARD DATA

A. Routes of entry: Employees may be exposed:

1. Through inhalation (breathing);
2. Through ingestion (swallowing);
3. Skin contact; and
4. Eye contact.

B. Effects of exposure:

1. *Acute exposure.* DBCP may cause drowsiness, irritation of the eyes, nose, throat and skin, nausea and vomiting. In addition, overexposure may cause damage to the lungs, liver or kidneys.

2. *Chronic exposure.* Prolonged or repeated exposure to DBCP has been shown to cause sterility in humans. It also has been shown to produce cancer and sterility in laboratory animals and has been determined to constitute an increased risk of cancer in man.

3. *Reporting Signs and Symptoms.* If you develop any of the above signs or symptoms that you think are caused by exposure to DBCP, you should inform your employer.

III. EMERGENCY FIRST AID PROCEDURES

A. *Eye exposure.* If DBCP liquid or dust containing DBCP gets into your eyes, wash your eyes immediately with large amounts of water, lifting the lower and upper lids occasionally. Get medical attention immediately. Contact lenses should not be worn when working with DBCP.

B. *Skin exposure.* If DBCP liquids or dusts containing DBCP get on your skin, immediately wash using soap or mild detergent and water. If DBCP liquids or dusts containing DBCP penetrate through your clothing, remove the clothing immediately and wash. If irritation is present after washing get medical attention.

C. *Breathing.* If you or any person breathe in large amounts of DBCP, move the exposed person to fresh air at once. If breathing has stopped, perform artificial respiration. Do not use mouth-to-mouth. Keep the affected person warm and at rest. Get medical attention as soon as possible.

D. *Swallowing.* When DBCP has been swallowed and the person is conscious, give the person large amounts of water immediately. After the water has been swallowed, try to get the person to vomit by having him touch the back of his throat with his finger. Do not make an unconscious person vomit. Get medical attention immediately.

E. *Rescue.* Notify someone. Put into effect the established emergency rescue procedures. Know the locations of the emergency rescue equipment before the need arises.

IV. RESPIRATORS AND PROTECTIVE CLOTHING

A. *Respirators.* You may be required to wear a respirator in emergencies and while your employer is in the process of reducing DBCP exposures through engineering controls. If respirators are worn, they must have a National Institute for Occupational Safety and Health (NIOSH) approval label (Older respirators may have a Bureau of Mines Approval label). For effective protection, a respirator must fit your face and head snugly. The respirator should not be loosened or removed in work situations where its use is required. DBCP does not have a detectable odor except at 1,000 times or more above the permissible exposure limit. If you can smell DBCP while wearing a respirator, the respirator is not working correctly; go immediately to fresh air. If you experience difficulty breathing while wearing a respirator, tell your employer.

B. *Protective clothing.* When working with DBCP you must wear for your protection impermeable work clothing provided by your employer. (Standard rubber and neoprene protective clothing do not offer adequate protection).

DBCP must never be allowed to remain on the skin. Clothing and shoes must not be allowed to become contaminated with DBCP, and if they do, they must be promptly removed and not worn again until completely free of DBCP. Turn in impermeable clothing that has developed leaks for repair or replacement.

C. *Eye protection.* You must wear splash-proof safety goggles where there is any possibility of DBCP liquid or dust contacting your eyes.

V. PRECAUTIONS FOR SAFE USE, HANDLING, AND STORAGE

A. DBCP must be stored in tightly closed containers in a cool, well-ventilated area.

B. If your work clothing may have become contaminated with DBCP, or liquids or dusts containing DBCP, you must change into uncontaminated clothing before leaving the work premises.

C. You must promptly remove any protective clothing that becomes contaminated with DBCP. This clothing must not be reworn until the DBCP is removed from the clothing.

D. If your skin becomes contaminated with DBCP, you must immediately and thoroughly wash or shower with soap or mild detergent and water to remove any DBCP from your skin.

E. You must not keep food, beverages, cosmetics, or smoking materials, nor eat or smoke, in regulated areas.

F. If you work in a regulated area, you must wash your hands thoroughly with soap or mild detergent and water, before eating, smoking or using toilet facilities.

G. If you work in a regulated area, you must remove any protective equipment or clothing before leaving the regulated area.

H. Ask your supervisor where DBCP is used in your work area and for any additional safety and health rules.

VI. ACCESS TO INFORMATION

A. Each year, your employer is required to inform you of the information contained in this Substance Safety Data Sheet for DBCP. In addition, your employer must instruct you in the safe use of DBCP, emergency procedures, and the correct use of protective equipment.

B. Your employer is required to determine whether you are being exposed to DBCP. You or your representative have the right to observe employee exposure measurements and to record the result obtained. Your employer is required to inform you of your exposure. If your employer determines that you are being overexposed, he is required to inform you of the actions which are being taken to reduce your exposure.

C. Your employer is required to keep records of your exposure and medical examinations. Your employer is required to keep exposure and medical data for at least 40 years or the duration of your employment plus 20 years, whichever is longer.

D. Your employer is required to release exposure and medical records to you, your physician, or other individual designated by you upon your written request.

Appendix B—Substance Technical Guidelines for DBCP

I. PHYSICAL AND CHEMICAL DATA

A. Substance Identification

1. Synonyms: 1,2-dibromo-3-chloropropane; DBCP, Fumazone; Nemafume; Nemagon; Nemaset; BBC 12; OS 1879. DBCP is also included in agricultural pesticides and fumigants which include the phrase "Nema———" in their name.

2. Formula: C3H5Br2 Cl.

3. Molecular Weight: 236.

B. Physical Data:

1. Boiling point (760 mm HG): 195C (383F)

2. Specific gravity (water=1): 2.093.

3. Vapor density (air=1 at boiling point of DBCP): Data not available.

4. Melting point: 6C (43F).

5. Vapor pressure at 20C (68F): 0.8 mm Hg

6. Solubility in water: 1000 ppm.

7. Evaporation rate (Butyl Acetate=1): very much less than 1.

8. Appearance and odor: Dense yellow or amber liquid with a pungent odor at high concentrations. Any detectable odor of DBCP indicates overexposure.

II. FIRE EXPLOSION AND REACTIVITY HAZARD DATA

A. Fire

1. Flash point: 170F (77C)

2. Autoignition temperature: Data not available.

3. Flammable limits in air, percent by volume: Data not available.

4. Extinguishing media: Carbon dioxide, dry chemical.

5. Special fire-fighting procedures: Do not use a solid stream of water since a stream will scatter and spread the fire. Use water spray to cool containers exposed to a fire.

6. Unusual fire and explosion hazards: None known.

7. For purposes of complying with the requirements of § 1910.106, liquid DBCP is classified as a Class III A combustible liquid.

8. For the purpose of complying with § 1910.309, the classification of hazardous locations as described in article 500 of the National Electrical Code for DBCP shall be Class I, Group D.

9. For the purpose of compliance with § 1910.157, DBCP is classified as a Class B fire hazard.

10. For the purpose of compliance with § 1910.178, locations classified as hazardous locations due to the presence of DBCP shall be Class I, Group D.

11. Sources of ignition are prohibited where DBCP presents a fire or explosion hazard.

B. Reactivity

1. Conditions contributing to instability: None known.

2. Incompatibilities: Reacts with chemically active metals, such as aluminum, magnesium and tin alloys.

3. Hazardous decomposition products: Toxic gases and vapors (such as HBr, HCl and carbon monoxide) may be released in a fire involving DBCP.

4. Special precautions: DBCP will attack some rubber materials and coatings.

III. SPILL, LEAK AND DISPOSAL PROCEDURES

A. If DBCP is spilled or leaked, the following steps should be taken:

1. The area should be evacuated at once and re-entered only after thorough ventilation.

2. Ventilate area of spill or leak.

3. If in liquid form, collect for reclamation or absorb in paper, vermiculite, dry sand, earth or similar material.

4. If in solid form, collect spilled material in the most convenient and safe manner for reclamation or for disposal.

B. Persons not wearing protective equipment must be restricted from areas of spills or leaks until cleanup has been completed.

C. Waste Disposal Methods:

1. For small quantities of liquid DBCP, absorb on paper towels, remove to a safe place (such as a fume hood) and burn the paper. Large quantities can be reclaimed or collected and atomized in a suitable combustion chamber equipped with an appropriate effluent gas cleaning device. If liquid DBCP is absorbed in vermiculite, dry sand, earth or similar material and placed in sealed containers it may be disposed of in a State-approved sanitary landfill.

2. If in solid form, for small quantities, place on paper towels, remove to a safe place (such as a fume hood) and burn. Large quantities may be reclaimed. However, if this is not practical, dissolve in a flammable solvent (such as alcohol) and atomize in a suitable combustion chamber equipped with an appropriate effluent gas cleaning device. DBCP in solid form may also be disposed in a state-approved sanitary landfill.

IV. MONITORING AND MEASUREMENT PROCEDURES

A. Exposure above the permissible exposure limit.

1. *Eight Hour Exposure Evaluation:* Measurements taken for the purpose of determining employee exposure under this section are best taken so that the average 8-hour exposure may be determined from a single 8-hour sample or two (2) 4-hour samples. Air samples should be taken in the employee's breathing zone (air that would most nearly represent that inhaled by the employee).

2. *Monitoring Techniques:* The sampling and analysis under this section may be performed by collecting the DBCP vapor on petroleum based charcoal absorption tubes with subsequent chemical analyses. The method of measurement chosen should determine the concentration of airborne DBCP at the permissible exposure limit to an accuracy of plus or minus 25 percent. If charcoal tubes are used, a total volume of 10 liters should be collected at a flow rate of 50 cc. per minute for each tube. Analyze the resultant samples as you would samples of halogenated solvent.

B. Since many of the duties relating to employee protection are dependent on the results of monitoring and measuring procedures, employers should assure that the evaluation of employee exposures is performed by a competent industrial hygienist or other technically qualified person.

V. PROTECTIVE CLOTHING

Employees should be required to wear appropriate protective clothing to prevent any possibility of skin contact with DBCP. Because DBCP is absorbed through the skin, it is important to prevent skin contact with both liquid and solid forms of DBCP. Protective clothing should include impermeable coveralls or similar fullbody work clothing, gloves, headcoverings, and workshoes or shoe coverings. Standard rubber and neoprene gloves do not offer adequate protection and should not be relied upon to keep DBCP off the skin. DBCP should never be allowed to remain on the skin. Clothing and shoes should not be allowed to become contaminated with the material, and if they do, they should be promptly removed and not worn again until completely free of the material. Any protective clothing which has developed leaks or is otherwise found to be defective should be repaired or replaced. Employees should also be required to wear splash-proof safety goggles where there is any possibility of DBCP contacting the eyes.

VI. HOUSEKEEPING AND HYGIENE FACILITIES

1. The workplace must be kept clean, orderly and in a sanitary condition;

2. Dry sweeping and the use of compressed air is unsafe for the cleaning of floors and other surfaces where DBCP dust or liquids are found. To minimize the contamination of air with dust, vacuuming with either portable or permanent systems must be used. If a portable unit is selected, the exhaust must be attached to the general workplace exhaust ventilation system, or collected within the vacuum unit equipped with high efficiency filters or other appropriate means of contamination removal and not used for other purposes. Units used to collect DBCP must be labeled.

3. Adequate washing facilities with hot and cold water must be provided, and maintained in a sanitary condition. Suitable cleansing agents should also be provided to assure the effective removal of DBCP from the skin.

4. Change or dressing rooms with individual clothes storage facilities must be provided to prevent the contamination of street clothes with DBCP. Because of the hazardous nature of DBCP, contaminated protective clothing must be stored in closed containers for cleaning or disposal.

VII. MISCELLANEOUS PRECAUTIONS

A. Store DBCP in tightly closed containers in a cool, well ventilated area.

B. Use of supplied-air suits or other impervious clothing (such as acid suits) may be necessary to prevent skin contact with DBCP. Supplied-air suits should be selected, used, and maintained under the supervision of persons knowlegeable in the limitations and potential life-endangering characteristics of supplied-air suits.

C. The use of air-conditioned suits may be necessary in warmer climates.

D. Advise employees of all areas and operations where exposure to DBCP could occur.

VIII. COMMON OPERATIONS

Common operations in which exposure to DBCP is likely to occur are: during its production; and during its formulation into pesticides and fumigants.

APPENDIX C—MEDICAL SURVEILLANCE GUIDELINES FOR DBCP

I. ROUTE OF ENTRY

Inhalation; skin absorption

II. TOXICOLOGY

Recent data collected on workers involved in the manufacture and formulation of DBCP has shown that DBCP can cause sterility at very low levels of exposure. This finding is supported by studies showing that DBCP causes sterility in animals. Chronic exposure to DBCP resulted in pronounced necrotic action on the parenchymatous organs (i.e., liver, kidney, spleen) and on the testicles of rats at concentrations as low as 5 ppm. Rats that were chronically exposed to DBCP also showed changes in the composition of the blood, showing low RBC, hemoglobin, and WBC, and high reticulocyte levels as well as functional hepatic disturbance, manifesting itself in a long prothrombin time. Reznik et al. noted a single dose of 100 mg produced profound depression of the nervous system of rats. Their condition gradually improved. Acute exposure also resulted in the destruction of the sex gland activity of male rats as well as causing changes in the estrous cycle in female rats. Animal studies have also associated DBCP with an increased incidence of carcinoma. Olson, et al. orally administered DBCP to rats and mice 5 times per week at experimentally predetermined maximally tolerated doses and at half those doses. As early as ten weeks after initiation of treatment, DBCP induced a high incidence of squamous cell carcinomas of the stomach with metastases in both species. DBCP also induced mammary adenocarcinomas in the female rats at both dose levels.

III. SIGNS AND SYMPTOMS

A. Inhalation: Nausea, eye irritation, conjunctivitis, respiratory irritation, pulmonary congestion or edema, CNS depression with apathy, sluggishness, and ataxia.

B. Dermal: Erythema or inflammation and dermatitis on repeated exposure.

IV. SPECIAL TESTS

A. *Semen analysis:* The following information excerpted from the document "Evaluation of Testicular Function", submitted by the Corporate Medical Department of the Shell Oil Company (exhibit 39-3), may be useful to physicians conducting the medical surveillance program;

In performing semen analyses certain minimal but specific criteria should be met;

1. It is recommended that a minimum of three valid semen analyses be obtained in order to make a determination of an individual's average sperm count.

2. A period of sexual abstinence is necessary prior to the collection of each masturbatory sample. It is recommended that intercourse or masturbation be performed 48 hours before the actual specimen collection. A period of 48 hours of abstinence would follow; then the masturbatory sample would be collected.

3. Each semen specimen should be collected in a clean, widemouthed, glass jar (not necessarily pre-sterilized) in a manner designated by the examining physician. Any part of the seminal fluid exam should be initialed *only after liquifaction* is complete, i.e., 30 to 45 minutes after collection.

4. Semen volume should be measured to the nearest 1/10 of a cubic centimeter.

5. Sperm density should be determined using routine techniques involving the use of a white cell pipette and a hemocytometer chamber. The immobilizing fluid most effective and most easily obtained for this process is distilled water.

6. Thin, dry smears of the semen should be made for a morphologic classification of the sperm forms and should be stained with either hematoxalin or the more difficult, yet more precise, Papanicolaou technique. Also of importance to record is obvious sperm agglutination, pyospermia, delayed liquifaction (greater than 30 minutes), and hyperviscosity. In addition, pH, using nitrazine paper, should be determined.

7. A total morphology evaluation should include percentages of the following:

a. Normal (oval) forms,

b. Tapered forms,

c. Amorphous forms (include large and small sperm shapes),

d. Duplicated (either heads or tails) forms, and

e. Immature forms.

8. Each sample should be evaluated for sperm *viability* (percent viable sperm moving at the time of examination) as well as sperm *motility* (subjective characterization of "purposeful forward sperm progression" of the majority of those viable sperm analyzed) within two hours after collection, ideally by the same or equally qualified examiner.

B. *Serum determinations:* The following serum determinations should be performed by radioimmuno-assay techniques using National Institutes of Health (NIH) specific antigen or antigen preparations of equivalent sensitivity;

1. Serum follicle stimulating hormone (FSH);

2. Serum luteinizing hormone (LH); and

3. Serum total estrogen (females only).

V. TREATMENT

Remove from exposure immediately, give oxygen or artificial resuscitation if indicated. Contaminated clothing and shoes should be removed immediately. Flush eyes and wash contaminated skin. If swallowed and the person is conscious, induce vomiting. Recovery from mild exposures is usually rapid and complete.

VI. SURVEILLANCE AND PREVENTIVE CONSIDERATIONS

A. *Other considerations.* DBCP can cause both acute and chronic effects. It is important that the physician become familiar with the operating conditions in which exposure to DBCP occurs. Those with respiratory disorders may not tolerate the wearing of negative pressure respirators.

B. *Surveillance and screening.* Medical histories and laboratory examinations are required for each employee subject to exposure to DBCP. The employer should screen employees for history of certain medical conditions (listed below) which might place the employee at increased risk from exposure.

1. *Liver disease.* The primary site of biotransformation and detoxification of DBCP is the liver. Liver dysfunctions likely to inhibit the conjugation reactions will tend to promote the toxic actions of DBCP. These precautions should be considered before exposing persons with impaired liver function to DBCP.

2. *Renal disease.* Because DBCP has been associated with injury to the kidney it is important that special consideration be given to those with possible impairment of renal function.

3. *Skin desease.* DBCP can penetrate the skin and can cause erythema on prolonged exposure. Persons with pre-existing skin disorders may be more susceptible to the effects of DBCP.

4. *Blood dyscrasias.* DBCP has been shown to decrease the content of erythrocytes, hemoglobin, and leukocytes in the blood, as well as increase the prothrombin time. Persons with existing blood disorders may be more susceptible to the effects of DBCP.

5. *Reproductive disorders.* Animal studies have associated DBCP with various effects on the reproductive organs. Among these effects are atrophy of the testicles and changes in the estrous cycle. Persons with pre-existing reproductive disorders may be at increased risk to these effects of DBCP.

REFERENCES

1. Reznik, Ya. B. and Sprinchan, G. K.: Experimental Data on the Gonadotoxic effect of Nemagon, *Gig. Sanit.*, (6), 1975, pp. 101-102, (translated from Russian).

2. Faydysh, E. V., Rakhmatullaev, N. N. and Varshavskii, V. A.: The Cytotoxic Action of Nemagon in a Subacute Experi-

ment, *Med. Zh. Uzbekistana*, (No. 1), 1970, pp. 64-65, (translated from Russian).

3. Rakhmatullaev, N. N.: Hygienic Characteristics of the Nematocide Nemagon in Relation to Water Pollution Control, *Hyg. Sanit.*, 36(3), 1971, pp. 344-348, (translated from Russian).

4. Olson, W. A. *et al.*: Induction of Stomach Cancer in Rats and Mice by Halogenated Aliphatic Fumigants, *Journal of the National Cancer Institute*, (51), 1973, pp. 1993-1995.

5. Torkelson, T. R. *et al.*: Toxicologic Investigations of 1,2-Dibromo-3-chloropropane, *Toxicology and Applied Pharmacology, 3, 1961 pp. 545-559.*

§ 1910.1045 Acrylonitrile.

(a) *Scope and application.* (1) This section applies to all occupational exposures to acrylonitrile (AN), Chemical Abstracts Service Registry No. 000107131, except as provided in paragraph (a)(2) of this section.

(2) This section does not apply to the processing, use, and handling of products fabricated from polyacrylonitrile (PAN) where objective data is reasonably relied upon as to one of the following conditions:

(i) That the material to be processed is not capable of releasing AN in airborne concentrations in excess of 1 ppm under expected conditions of processing, use, and handling which will cause the greatest possible release; or

(ii) That the material to be processed is not a latex or other liquid mixture and will not be heated or melted during the fabrication process.

(3) Where the processing, use and handling of products fabricated from PAN are exempted under this paragraph the employer shall maintain records of the objective data supporting that exemption, as provided in paragraph (q) of this section.

(b) *Definitions.* "Acrylonitrile" or "AN" means acrylonitrile monomer, chemical formula $CH2 = CHCN$.

"Action level" means a concentration of AN of 1 ppm averaged over any eight (8)-hour period.

"Assistant Secretary" means the Assistant Secretary of Labor for Occupational Safety and Health, U.S. Department of Labor, or designee.

"Authorized person" means any person specifically authorized by the employer and whose duties require the person to be present in areas where AN concentrations exceed the permissible exposure limit and any person entering this area as a designated representative of employees exercising an opportunity to observe employee exposure monitoring under paragraph (r) of this section.

"Director" means the Director, National Institute for Occupational Safety and Health, U.S. Department of Health, Education, and Welfare, or designee.

"OSHA Area Office" means the Area Office of the Occupational Safety and Health Administration having jurisdiction over the geographic area where the affected workplace is located.

"Polyacrylonitrile" or "PAN" means polyacrylonitrile homopolymer or copolymer, except for materials as exempted under paragraph (a)(2) or of this section.

(c) *Permissible exposure limit.*—(1) *Inhalation.*—(i) *Time-weighted average limit (TWA).* As soon as possible, but no later than thirty (30) days from the effective date of this emergency temporary standard, the employer shall assure that no employee is exposed to an airborne concentration in excess of 2 parts AN per million parts of air (2 ppm), as an 8-hour time-weighted average.

(ii) *Ceiling limit.* As soon as possible, but no later than thirty (30) days from the effective date of this emergency temporary standard, the employer shall assure that no employee is exposed to an airborne concentration in excess of 10 parts AN per million parts of air (10 ppm) as averaged over any 15 minutes during the working day.

(2) *Dermal and eye exposure.* As soon as possible, but no later than thirty (30) days from the effective date of this emergency temporary standard, the employer shall assure that no employee is exposed to skin contact or eye contact with liquid AN, or with PAN.

(d) *Notification of use.* Within thirty (30) days of the effective date of this section or within fifteen (15) days following the introduction of AN into the workplace, every employer who has a workplace where AN is present shall report the following information to the nearest OSHA Area Office for each such workplace: (1) The address and location of each workplace in which AN is present;

(2) A brief description of each process or operation which may result in employee exposure to AN;

(3) The number of employees engaged in each process or operation who may be exposed to AN and an estimate of the frequency and degree of exposure that occurs; and

(4) A brief description of the employer's safety and health program as it relates to limitation of employee exposure to AN.

(e) *Exposure monitoring.*—(1) *General.* Determinations of airborne exposure levels shall be made from air samples that are representative of each employee's exposure to AN over an 8-hour period. (For the purposes of this section, employee exposure is that which would occur if the employee were not using a respirator.)

(2) *Initial monitoring.* As soon as possible, but not later than thirty (30) days after the effective date of this section, each such employer who has a place of employment in which AN is present shall monitor each such workplace and work operation to accurately determine the airborne concentrations of AN to which employees may be exposed. Such monitoring may be done on a representative basis, provided that the employer can demonstrate that these determinations are representative of employee exposures.

(3) *Frequency.* (i) If the monitoring required by this section reveals employee exposure to be below the action level, the employer may discontinue monitoring for that employee.

(ii) If the monitoring required by this section reveals employee exposure to be at or above the action level but below the permissible exposure limits, the employer shall repeat such monitoring for each such employee within three months.

(iii) If the monitoring, required by this section, reveals employee exposure to be in excess of the permissible exposure limits, the employer shall repeat these determinations for each such employee at least monthly. The employer shall continue these monthly measurements until at least two consecutive measurements, taken at least seven (7) days apart, are below the permissible exposure limits, and thereafter the employer shall monitor within three months.

(4) *Additional monitoring.* Whenever there has been a production, process, control, or personnel change which may result in new or additional exposures to AN, or whenever the employer has any other reason to suspect a change which may result in new or additional exposures to AN, additional monitoring which complies with this paragraph shall be conducted.

(5) *Employee notification.* (i) Within five (5) working days after the receipt of monitoring results, the employer shall notify each employee in writing of the results which represent that employee's exposure.

(ii) Whenever the results indicate that the representative employee exposure exceeds the permissible exposure limits, the employer shall include in the written notice a statement that the permissible exposure limits were exceeded and a description of the corrective action being taken to reduce exposure to or below the permissible exposure limits.

(6) *Accuracy of measurement.* The method of measurement shall be accurate, to a confidence level of 95 percent, to within plus or minus 25 percent for concentrations of AN at or above the permissible exposure limits, and to within plus or minus 35 percent for concentrations between the action level and the permissible exposure limits.

(f) *Regulated areas.* [Reserved]

(g) *Methods of compliance.*—(1) *General.* Employee exposures to AN shall be controlled to or below the permissible exposure limits by any practicable combination of engineering controls, work practices, and personal protective devices and equipment, during the effective period of this emergency temporary standard.

NOTE.—Where engineering controls or work practices can reduce employee exposures to AN, it is recommended that they be implemented where practicable, even where they do not themselves reduce employee exposures to, or below the permissible exposure limits. Work practices which can be implemented by the employer to help reduce employee exposures to AN include limiting access to work areas to authorized personnel, prohibiting smoking and consumption of food and beverages in work areas, and establishing good maintenance and housekeeping practices, including the prompt clean-up of spills and repair of leaks.

(2) *Engineering and work-practice control plan.* (i) Within ninety (90) days of the effective date of this emergency temporary standard, the employer shall develop a written plan describing proposed means to reduce employee exposures to AN to the lowest feasible level solely by means of engineering and work-practice controls.

(ii) Written plans required under this paragraph shall be submitted upon request to the Secretary and the Director, and shall be available at the worksite for examination and copying by the Assistant Secretary, Director, and any affected employee or designated representative.

(h) *Respiratory protection.*—(1) *Required use.* The employer shall assure that respirators are used where required under this section to reduce employee exposure to within the permissible exposure limits, and in emergencies.

(2) *Respirator selection.* (i) Where respiratory protection is required or permitted under this section, the employer shall select and provide at no cost to the employee, the appropriate respirator from Table I below, and shall assure that the employee wears the respirator provided. Respirators assigned for higher concentrations may also be used for lower concentrations.

(ii) The employer shall select respirators from among those approved for use with organic vapors by the National Institute for Occupational Safety and Health (NIOSH) under the provisions of 30 CFR Part 11.

TABLE 1.—*Respiratory protection for acrylonitrile (AN)*

Concentration of AN or condition of use	*Respirator type*
(a) Less than or equal 20 p/m.	(1) Any chemical cartridge respirator with organic vapor cartridge and half-mask; or (2) Any supplied air respirator with half-mask.
(b) Less than or equal to 100 p/m.	(1) Any organic vapor gas mask; or (2) Any supplied air respirator with full facepiece; or (3) Any self-contained breathing apparatus with full facepiece.
(c) Less than or equal to 4,000 p/m.	(1) Supplied air respirator in positive pressure mode with full facepiece, helmet, hood, or suit.
(d) Less than or equal to 20,000 p/m.	(1) Supplied air respirator and auxiliary self-contained full facepiece in positive pressure mode; or (2) Open circuit self-contained breathing apparatus with full facepiece in positive pressure mode.
(e) Emergency entry into unknown concentrations or fire fighting.	(1) Any self-contained breathing apparatus with full facepiece in positive pressure mode.
(f) Escape	(1) Any organic vapor gas mask; or (2) Any self-contained breathing apparatus with full facepiece.

(3) *Respirator program.* (i) The employer shall institute a respiratory protection program in accordance with 29 CFR 1910.134(b), (d), (e), and (f).

(ii) Where air-purifying respirators (chemical cartridge or canister-type gas mask) are used, the air-purifying canister or cartridge(s) shall be replaced prior to the expiration of their service life or at the beginning of each shift, whichever occurs first. A label shall be attached to the cartridge or canister to indicate the date and time at which it is first installed on the respirator.

(iii) The employer shall allow each employee who uses a filter respirator (cartridge or canister) to change the filter elements whenever an increase in breathing resistance is detected and shall maintain an adequate supply of filter elements for this purpose.

(iv) Employees who wear respirators shall be allowed to wash their faces and respirator facepieces to prevent potential skin irritation associated with respirator use.

(i) *Emergency situation.* [Reserved]

(j) *Protective clothing and equipment*—(1) *Provision and use.* Where eye or skin contact with liquid AN or with PAN may occur, the employer shall provide at no cost to the employee, and assure that employees wear, appropriate protective clothing or other equipment in accordance with §§ 1910.132 and 1910.133 to protect any area of the body which may come in contact with liquid AN or with PAN.

(2) *Cleaning and replacement.* (i) The employer shall clean, launder, maintain, or replace protective clothing and equipment required by this paragraph as needed to maintain their effectiveness. In addition, the employer shall provide clean protective clothing and equipment at least weekly to each affected employee.

(ii) The employer shall assure that the employee removes all protective clothing and equipment at the completion of a workshift, and that an employee whose protective clothing becomes wet with liquid AN removes that clothing promptly to avoid skin contact with the liquid AN.

(iii) The employer shall assure that AN-contaminated protective work clothing and equipment is placed and stored in closable containers which prevent dispersion of AN outside the container.

(iv) The employer shall inform any person who launders or cleans AN-contaminated protective clothing or equipment of the potentially harmful effects of exposure to AN.

(v) The employer shall assure that the containers of contaminated protective clothing and equipment which are to be removed from the workplace for any reason are labeled in accordance with paragraph (p)(3)(ii) of this section and that such label remains affixed when such containers leave the employer's workplace.

(k) *Housekeeping*—(1) *Surface.* (i) All surfaces shall be maintained free of accumulations of liquid of AN and of PAN.

(ii) Dry sweeping and the use of compressed air for the cleaning of floors and other surfaces where liquid AN and PAN are found is prohibited.

(iii) Where vacuuming methods are selected, either portable units or a permanent system may be used.

(A) If a portable vacuum unit is selected, the exhaust shall be attached to the general workplace exhaust ventilation system or collected within the vacuum unit, equipped with high efficiency filters or other appropriate means of contaminant removal, so that AN is not reintroduced into the workplace air; and

(B) Portable vacuum units used to collect AN may not be used for other cleaning purposes and shall be labeled as prescribed by paragraph (p)(3)(ii) of this section.

(iv) Cleaning of floors and other contaminated surfaces may not be performed by washing down with a hose, unless a fine spray has first been laid down.

(2) *Liquids.* Where AN is present in a liquid form, or as a resultant vapor, all containers or vessels containing AN shall be enclosed to the maximum

extent feasible and tightly covered when not in use, with adequate provision made to avoid any resulting potential explosion hazard.

(l) *Waste disposal.* AN and PAN waste, scrap, debris, bags, containers or equipment shall be disposed of in sealed bags or other closed containers which prevent dispersion of AN outside the container, and labelled as prescribed in paragraph (p)(3)(ii) of this section.

(m) *Hygiene facilities and practices.* Where employees are exposed to airborne concentrations of AN above the permissible exposure limits, or where employees are required to wear protective clothing or equipment pursuant to paragraph (j) of this section, or where otherwise found to be appropriate, the facilities required by 29 CFR 1910.141 shall be provided by the employer for the use of those employees, and the employer shall assure that the employees use the facilities provided. Change rooms as specified in § 1910.141(c) are not required where the employer can demonstrate that such facilities, if not already available, cannot be feasibly provided before the expiration of this standard. This provision does not in any way diminish preexisting obligations to provide change rooms.

(n) *Medical surveillance*—(1) *General.* (i) The employer shall institute a program of medical surveillance for each employee who is or will be exposed to AN above the action level. The employer shall provide each such employee with an opportunity for medical examinations and tests in accordance with this paragraph.

(ii) The employer shall assure that all medical examinations and procedures are performed by or under the supervision of a licensed physician, and shall be provided without cost to the employee.

(2) *Initial examinations.* Within thirty (30) days of the effective date of this section, or thereafter at the time of initial assignment, the employer shall provide each affected employee an opportunity for a medical examination, including at least the following elements:

(i) A work history and medical history with special attention to skin, respiratory, and gastrointestinal systems, and those non-specific symptoms, such as headache, nausea, vomiting, dizziness, weakness, or other central nervous system dysfunctions that may be associated with acute or with chronic exposure to AN.

(ii) A physical examination giving particular attention to the central nervous system, gastrointestinal system, respiratory system, skin, and thyroid.

(iii) A 14" x 17" posteroanterior chest X-ray.

(iv) Further tests of the intestinal tract, including fecal occult blood and proctosigmoidoscopy, on all workers 40 years of age or older and to any other affected employees for whom, in the opinion of the physician, such testing would be appropriate.

(3) *Periodic examinations.* [Reserved]

(4) *Interim examinations.* If the employee for any reason develops signs or symptoms commonly associated with exposure to AN, the employer shall provide appropriate examination and emergency medical treatment.

(5) *Information provided to the physician.* The employer shall provide the following information to the examining physician:

(i) A copy of this emergency temporary standard and its appendices;

(ii) A description of the affected employee's duties as they relate to the employee's exposure;

(iii) The employee's representative exposure level; and

(iv) A description of any personal protective equipment used or to be used.

(6) *Physician's written opinion.* (i) The employer shall obtain a written opinion from the examining physician which shall include:

(A) The results of the medical test performed;

(B) The physician's opinion as to whether the employee has any detected medical condition which would place the employee at an increased risk of material impairment of the employee's health from exposure to AN;

(C) Any recommended limitations upon the employee's exposure to AN or upon the use of protective clothing and equipment such as respirators; and

(D) A statement that the employee has been informed by the physician of the results of the medical examination and any medical conditions which require further examination or treatment.

(ii) The employer shall instruct the physician not to reveal in the written opinion specific findings or diagnoses unrelated to occupational exposure to AN.

(iii) The employer shall provide a copy of the written opinion to the affected employee.

(o) *Employee information and training.*—(1) *Training program.* (i) As soon as possible but no later than thirty (30) days from the effective date of this standard, the employer shall institute a training program for all employees where there is occupational exposure to AN and shall assure their participation in the training program.

(ii) The employer shall assure that each employee is informed of the following:

(A) The information contained in Appendices A, B and C;

(B) The quantity, location, manner of use, release or storage of AN and the specific nature of operations which could result in exposure to AN, as well as any necessary protective steps;

(C) The purpose, proper use, and limitations of respirators;

(D) The purpose and a description of the medical surveillance program required by paragraph (n) of this section; and

(E) A review of this standard.

(2) *Access to training materials.* (i) The employer shall make a copy of this standard and its appendices readily available to all affected employees.

(ii) The employer shall provide, upon request, all materials relating to the employee information and training program to the Assistant Secretary and the Director.

(p) *Signs and labels.*—(1) *General.*

(i) The employer may use labels or signs required by other statutes, regulations, or ordinances in addition to, or in combination with, signs and labels required by this paragraph.

(ii) The employer shall assure that no statement appears on or near any sign or label, required by this paragraph, which contradicts or detracts from such effects of the required sign or label.

(2) *Signs.* (i) The employer shall post signs to clearly indicate all workplaces where AN concentrations exceed the permissible exposure limits. The signs shall bear the following legend:

DANGER

ACRYLONITRILE (AN)

CANCER HAZARD

AUTHORIZED PERSONS ONLY

RESPIRATORS REQUIRED

(ii) The employer shall assure that signs required by this paragraph are illuminated and cleaned as necessary so that the legend is readily visible.

(3) *Labels.* (i) The employer shall assure that precautionary labels are affixed to all containers of AN, and to containers of PAN and products fabricated from PAN except for those materials for which objective data is provided as to the conditions specified in (a)(2) of this section. The employer shall assure that these labels remain affixed when the AN, PAN and products fabricated from PAN are sold, distributed or otherwise leave the employer's workplace.

(ii) The employer shall assure that the precautionary labels required by this paragraph are readily visible and legible. The labels shall bear the following legend:

DANGER

CONTAINS ACRYLONITRILE (AN)

CANCER HAZARD

(q) *Recordkeeping.*—(1) *Objective data for exempted operations.* (i) Where the processing, use, and handling of products fabricated from PAN are exempted pursuant to paragraph (a)(2) of this section, the employer shall establish and maintain an accurate record of all objective data reasonably relied upon in support of the exemption.

(ii) This record shall include the following information:

(A) The relevant condition in paragraph (a)(2) upon which exemption is based;

(B) The source of the objective data;

(C) The results of testing and analysis of the material being processed;

(D) A description of the operation exempted; and

(E) Other data relevant to the operation, materials, and processing covered by the exemption.

(iii) The employer shall maintain this record for the duration of the employer's reliance upon such objective data.

(2) *Exposure monitoring.* (i) The employer shall establish and maintain an accurate record of all monitoring required by paragraph (e) of this section.

(ii) This record shall include:

(A) The dates, number, duration, and results of each of the samples taken, including a description of the sampling procedure used to determine representative employee exposure;

(B) A description of the sampling and analytical methods used;

(C) Type of respiratory protective devices worn, if any; and

(D) Name, social security number, and job classification of the employee monitored and of all other employees whose exposure the measurement is intended to represent.

(iii) The employer shall maintain this record for the effective period of this emergency temporary standard, and for any additional period required by the permanent standard.

(3) *Medical surveillance.* (i) The employer shall establish and maintain an accurate record for each employee subject to medical surveillance as required by paragraph (n) of this section.

(ii) This record shall include:

(A) A copy of the physicians' written opinions;

(B) Any employee medical complaints related to exposure to AN;

(C) A copy of the information provided to the physician as required by paragraph (n)(6) of this section; and

(D) A copy of the employee's work history.

(iii) The employer shall assure that this record be maintained for the effective period of this emergency temporary standard, and for any additional period required by the permanent standard.

(4) *Availability.* (i) The employer shall assure that all records required to be maintained by this section be made available upon request to the Assistant Secretary and the Director for examination and copying.

(ii) The employer shall assure that employee exposure measurement records, as required by this section, be made available, upon request, for examination and copying to the affected employee, former employee, or designated representative.

(iii) The employer shall assure that employee medical records required to be maintained by this section, be made available, upon request, for examination and copying to the affected employee or former employee, or to a physician designated by the affected employee, former employee, or designated representative.

(r) *Observation of monitoring.*—(1) *Employee observation.* The employer shall provide affected employees, or their designated representatives, an opportunity to observe any monitoring of employee exposure to AN conducted pursuant to paragraph (e) of this section.

(2) *Observation procedures.* (i) Whenever observation of the monitoring of employee exposure to AN requires entry into an area where the use of protective clothing or equipment is required, the employer shall provide the observer with personal protective clothing or equipment required to be worn by employees working in the area, assure the use of such clothing and equipment, and require the observer to comply with all other applicable safety and health procedures.

(ii) Without interfering with the monitoring, observers shall be entitled:

(A) To receive an explanation of the measurement procedures;

(B) To observe all steps related to the measurement of airborne concentrations of AN performed at the place of exposure; and

(C) To record the results obtained.

(s) *Effective date.* This section shall become effective immediately.

(t) *Appendices.* The information contained in the appendices is not intended, by itself, to create any additional obligations not otherwise imposed or to detract from any existing obligations.

APPENDIX A—SUBSTANCE SAFETY SHEET FOR ACRYLONITRILE

I. SUBSTANCE IDENTIFICATION

A. Substance: Acrylonitrile ($CH_2{=}CHCN$).

B. Synonyms: Propenenitrile; vinyl cyanide; cyanoethylene; AN; VCN; acrylon; carbacryl; fumigrain; ventox.

C. Acrylonitrile can be found as a liquid or vapor, and can also be found in polymer resins, plastics, polyols, and other polymers having acrylonitrile as a raw or intermediate material.

D. AN is used in the manufacture of acrylic and modacrylic fibers, acrylic plastics and resins, specialty polymers, nitrile rubbers, and other organic chemicals. It has also been used as a fumigant.

E. Appearance and Odor: Colorless to pale yellow liquid with a pungent odor which can only be detected at concentrations above the permissible exposure level, in a range of 13-19 parts AN per million parts of air (13-19 ppm).

F. Permissible Exposure: Exposure may not exceed either:

1. 2 parts AN per million parts of air (2 ppm) averaged over the eight-hour workday; or

2. 10 parts AN per million parts of air (10 ppm) averaged over any 15-minute period in the workday.

3. In addition, skin and eye contact with liquid AN is prohibited.

II. HEALTH HAZARD DATA

A. Acrylonitrile can affect your body if you inhale the vapor (breathing) if it comes in contact with your eyes or skin, or if you swallow it. It may enter your body through your skin.

B. Effects of Overexposure:

1. Short-term Exposure: Acrylonitrile causes eye irritation, nausea, vomiting, headache, sneezing, weakness, and lightheadedness. At high concentrations, the effects of exposure may go on to loss of consciousness and death. When acrylonitrile is held in contact with the skin after being absorbed into shoe leather or clothing, it may produce blisters following several hours of no apparent effect. Unless the shoes or clothing are removed immediately and the area washed, blistering will occur. Usually there is no pain or inflammation associated with blister formation.

2. Long-term Exposure: Acrylonitrile has been shown to cause cancer in laboratory animals and has been associated with higher incidences of cancer in humans. Repeated or prolonged exposure of the skin to acrylonitrile may produce irritation and dermatitis.

3. Reporting Signs and Symptoms: You should inform your employer if you develop any signs or symptoms which may be caused by exposure to acrylonitrile.

III. EMERGENCY FIRST AID PROCEDURES

A. Eye Exposure: If acrylonitrile gets into your eyes, wash your eyes immediately with large amounts of water, lifting the lower and upper lids occasionally. Get medical attention immediately. Contact lenses should not be worn when working with this chemical.

B. Skin Exposure: If acrylonitrile gets on your skin, immediately wash the contaminated skin with water. If acrylonitrile soaks through your clothing, especially your shoes, remove the clothing immediately and wash the skin with water. If symptoms occur after washing, get medical attention immediately. Thoroughly wash the clothing before re-using. Contaminated leather shoes or other leather articles should be discarded.

C. Inhalation: If you or any other person breathes in large amounts of acrylonitrile, move the exposed person to fresh air at once. If breathing has stopped, perform artificial respiration. Keep the affected person warm and at rest. Get medical attention as soon as possible.

D. Swallowing: When acrylonitrile has been swallowed, give the person large quantities of water immediately. After the water has been swallowed, try to get the person to vomit by having him touch the back of his throat with his finger. Do not make an unconscious person vomit. Get medical attention immediately.

E. Rescue: Move the affected person from the hazardous exposure. If the exposed person has been overcome, notify someone else and put into effect the established emergency procedures. Do not become a casualty yourself. Understand your emergency rescue procedures and know the locations of the emergency equipment before the need arises.

F. Special First Aid Procedures: First aid kits containing an adequate supply (at least two dozen) of amyl nitrite pearls (ampules), each containing 0.3 ml, should be maintained at each site where acrylonitrile is used. When a person is suspected of receiving an overexposure to acrylonitrile, immediately remove that person from the contaminated area using established rescue procedures. Contaminated clothing must be removed and the acrylonitrile washed from the skin immediately. Artificial respiration should be started at once if breathing has stopped. If the person is unconscious, amyl nitrite may be used as an antidote by a properly trained individual in accordance with established emergency procedures. Medical aid should be obtained immediately.

IV. RESPIRATORS AND PROTECTIVE CLOTHING

A. Respirators: You may be required to wear a respirator for non-routine activities, in emergencies, and while your employer is in the process of reducing acrylonitrile exposures through engineering controls. If respirators are worn, they must have a Mining Enforcement and Safety Administration (MESA) or National Institute for Occupational Safety and Health (NIOSH) approval label. (Older respirators may have a Bureau of Mines approval label.) For effective protection, respirators must fit your face and head snugly. Respirators should not be loosened or removed in work situations where their use is required.

Acrylonitrile does not have a detectable odor except at levels above the permissible exposure limit. Do not depend on odor to warn you when a respirator cartridge or canister is exhausted. Cartridges or canisters must be changed daily. Reuse of these may allow acrylonitrile to gradually filter through the cartridge and cause exposures which you cannot detect by odor. If you can smell acrylonitrile while wearing a respirator, the respirator is not working correctly. Go immediately to fresh air. If you experience difficulty breathing while wearing a respirator tell your employer.

B. Supplied-air Suits: In some work situations, the wearing of supplied-air suits may be necessary. Your employer should instruct you in their proper use and operation.

C. Protective Clothing: You must wear impervious clothing, gloves, face shield, or other appropriate protective clothing to prevent skin contact with liquid acrylonitrile. Replace or repair impervious clothing that has developed leaks. Where protective clothing is required, your employer is required to provide clean garments to you weekly.

Acrylonitrile should never be allowed to remain on the skin. Clothing and shoes should not be allowed to become contaminated with acrylonitrile, and if they do, the clothing should be promptly removed and laundered or discarded, and the shoes should be discarded. Once acrylonitrile penetrates shoe leather, or other leather articles, the article should not be worn again.

D. Eye Protection: You must wear splash-proof safety goggles in areas where liquid acrylonitrile may contact your eyes. In addition, contact lenses should not be worn in areas where eye contact with acrylonitrile can occur.

V. PRECAUTIONS FOR SAFE USE, HANDLING, AND STORAGE

A. Acrylonitrile is a flammable liquid and its vapors can easily form explosive mixtures in air.

B. Acrylonitrile must be stored in tightly-closed containers in a cool, well-ventilated area, away from heat, sparks, flames, strong oxidizers (especially bromine), strong bases, copper, copper alloys, ammonia, and amines.

C. Sources of ignition such as smoking and open flames are prohibited wherever acrylonitrile is handled, used, or stored in a manner that could create a potential fire or explosion hazard.

D. You should use non-sparking tools when opening or closing metal containers of acrylonitrile, and containers must be bonded and grounded when pouring or transferring liquid acrylonitrile.

E. You must immediately remove any non-impervious clothing that becomes contaminated with acrylonitrile, and this clothing must not be reworn until the acrylonitrile is removed from the clothing.

F. Clothing wet with liquid acrylonitrile can be easily ignited. You must promptly remove this clothing, and it must not be reworn until the acrylonitrile is removed from the clothing.

G. If your skin becomes wet with liquid acrylonitrile, you must promptly and thoroughly wash or shower with soap or mild detergent to remove any acrylonitrile from your skin.

H. You must not keep food, beverages, or smoking materials in areas where acrylonitrile is handled, processed, or stored, nor are you permitted to eat or smoke in these areas.

I. If you handle acrylonitrile, you must wash your hands thoroughly with soap or mild detergent and water before eating, smoking, or using toilet facilities.

J. Fire extinguishers and quick drenching facilities must be readily available, and you should know where they are and how to operate them.

K. Ask your supervisor where acrylonitrile is used in your work area and for any additional plant safety and health rules.

VI. ACCESS TO INFORMATION

A. Each year, your employer is required to inform you of the information contained in this Substance Safety Data Sheet for acrylonitrile. In addition, your employer must instruct you in the proper work-practices for using acrylonitrile, emergency procedures, and the correct use of protective equipment.

B. Your employer is required to determine whether you are being exposed to acrylonitrile. You or your representative has the right to observe employee exposure measurements and to record the results obtained. Your employer is required to inform you of your exposure. If your employer determines that you are being overexposed, he or she is required to inform you of the actions which are being taken to reduce your exposure to within permissible exposure limits.

C. Your employer is required to keep records of your exposures and medical examinations. These records must be kept by the employer for at least the effective period of this emergency temporary standard.

D. Your employer is required to release exposure and medical records to your physician upon your written request.

APPENDIX B—SUBSTANCE TECHNICAL GUIDELINES FOR ACRYLONITRILE

I. PHYSICAL AND CHEMICAL DATA

A. Substance identification:

1. Synonyms: AN; VCN; Vinyl Cyanide; Propenenitrile; Cyanoethylene; Acrylon; Carbacryl; Fumigrain; Ventox.

2. Formula: $CH2=CHCN$.

3. Molecular Weight: 53.1.

B. Physical Data:

1. Boiling Point (760 mm Hg): 77.3° C (171° F).

2. Specific Gravity (water=1): 0.81 (at 20° C or 68° F).

3. Vapor Density (air=1 at boiling point of acrylonitrile): 1.83.

4. Melting Point: −83° F (−117° F).

5. Vapor Pressure at 20° C (68° F): 83 mm Hg.

6. Solubility in Water. Percent by weight at 20° C (68° F): 7.35.

7. Evaporation Rate (Butyl Acetate=1): 4.54.

8. Appearance and Odor: Colorless to pale yellow liquid with a pungent odor at concentrations above the permissible exposure level. Any detectable odor of acrylonitrile may indicate overexposure.

II. FIRE, EXPLOSION, AND REACTIVITY HAZARD DATA

A. Fire:

1. Flash Point: −1° C (30° F) (open cup).

2. Autoignition Temperature: 481° C (898° F).

3. Flammable limits in air, Percent by volume: Lower: 3; Upper: 17.

4. Extinguishing media: Alcohol foam, carbon dioxide, dry chemical.

5. Special fire-fighting procedures: Do not use a solid stream of water, since the stream will scatter and spread the fire. Use water spray to cool containers exposed to a fire.

6. Unusual fire and explosion hazards: Acrylonitrile is a flammable liquid. Its vapors can easily form explosive mixtures with air. All ignition sources must be controlled where acrylonitrile is handled, used, or stored in a manner that could create a potential fire or explosion hazard. Acrylonitrile vapors are heavier than air and may travel along the ground and be ignited by open flames or sparks at locations remote

from the site at which acrylonitrile is being handled.

7. For purposes of compliance with the requirements of 29 CFR 1910.106, acrylonitrile is classified as a Class IB flammable liquid. For example, 7500 ppm, approximately one-fourth of the lower flammable limit, would be considered to pose a potential fire and explosion hazard.

8. For purposes of compliance with 29 CFR 1910.157, acrylonitrile is classified as a Class B fire hazard.

9. For purposes of compliance with 29 CFR 1910.309, locations classified as hazardous due to the presence of acrylonitrile shall be Class I Group D.

B. Reactivity.

1. Conditions contributing to instability: Acrylonitrile will polymerize when hot, and the additional heat liberated by the polymerization may cause containers to explode. Pure AN may self-polymerize with a rapid build-up of pressure resulting in an explosion hazard. Inhibitors are added to the commercial product to prevent self-polymerization.

2. Incompatibilities: Contact with strong oxidizers (especially bromine) and strong bases may cause fires and explosions. Contact with copper, copper alloys, ammonia, and amines may start serious decomposition.

3. Hazardous decomposition products: Toxic gases and vapors (such as hydrogen cyanide, oxides of nitrogen, and carbon monoxide) may be released in a fire involving acrylonitrile and certain polymers made from acrylonitrile.

4. Special precautions: Liquid acrylonitrile will attack some forms of plastics, rubbers, and coatings. Acrylonitrile monomer should be checked at least weekly to determine inhibitor content.

III. SPILL, LEAK, AND DISPOSAL PROCEDURES

A. If acrylonitrile is spilled or leaked, the following steps should be taken:

1. Remove all ignition sources.

2. The area should be evacuated at once and re-entered only after thorough ventilation.

3. If liquid acrylonitrile, collect for reclamation or absorb in paper, vermiculite, dry sand, earth, or similar material.

4. If acrylonitrile polymer, collect spilled material in the most convenient and safe manner for reclamation or for disposal.

B. Persons not wearing protective equipment should be restricted from areas of spills or leaks until clean-up has been completed.

C. Waste disposal methods: Waste material shall be disposed of in a manner that is not hazardous to employees or to the general population. Spills of acrylonitrile and flushing of such spills shall be channeled for appropriate treatment or collection for disposal. They shall not be channeled directly into the sanitary sewer system. Containers of AN and PAN wastes shall be appropriately labelled. In selecting the method of waste disposal, applicable local, state, and federal regulations should be consulted.

IV. MONITORING AND MEASUREMENT PROCEDURES

A. Exposure above the Permissible Exposure Limit:

1. Eight-hour exposure evaluation: Measurements taken for the purpose of determining employee exposure under this section are best taken so that the average eight-hour exposure may be determined from a single 8-hour sample or two (2) 4-hour samples. Air samples should be taken in the employee's breathing zone (air that would most nearly represent that inhaled by the employee).

2. Ceiling evaluation: Measurements taken for the purpose of determining employee exposure under this section must be taken during periods of maximum expected airborne concentrations of acrylonitrile in the employee's breathing zone. A minimum of three (3) measurements should be taken on one work shift. The highest of all measurement taken is an estimate of the employee's ceiling exposure.

3. Monitoring techniques: The sampling and analysis under this section may be performed by collecting the acrylonitrile vapor on charcoal adsorption tubes or other composition adsorption tubes, with subsequent chemical analysis. Sampling and analysis may also be performed by instruments such as detector tubes certified by NIOSH under 42 CFR Part 84, portable direct-reading instruments, or passive dosimeters, as well as by gas and vapor adsorption tubes. The method of measurement chosen should determine the airborne levels of acrylonitrile to an accuracy of plus or minus 25 percent for concentrations of AN at or above the permissible exposure limit, and to within plus or minus 35 percent for concentrations between the action level and the permissible exposure limits.

4. Survey of operations. OSHA suggests that the employer use a direct-reading instrument, such as a portable infra-red analyzer, or equivalent points-monitoring system, to survey weekly, all operations involving liquid AN to determine points at which AN vapor or liquid may be released into the workplace. A listing of points monitored, together with levels of acrylonitrile detected, if any, shall be prepared from this survey, and the listing shall be displayed prominently in the workplace. As an alternative survey method, grab samples, utilizing vapor collection bags, with subsequent gas chromatographic analysis, can be used for this survey.

B. Since many of the duties relating to employee exposure are dependent on the results of monitoring and measuring procedures, employers shall assure that the evaluation of employee exposures is performed by a competent industrial hygienist or other technically qualified person.

V. PROTECTIVE CLOTHING

Employees shall be provided with, and required to wear appropriate protective clothing to prevent any possibility of skin contact with liquid AN or PAN. Because acrylonitrile is absorbed through the skin, it is important to prevent skin contact with the liquid. Protective clothing shall include impermeable coveralls or similar full-body work clothing, gloves, head-coverings, and workshoes or shoe coverings, as appropriate to protect areas of the body which may come in contact liquid AN or PAN.

Employers should ascertain that the protective garments are impermeable to acrylonitrile. Non-impermeable clothing and shoes should not be allowed to become contaminated with acrylonitrile. If permeable clothing does become contaminated, it should be promptly removed and not worn again until completely free of the material. If leather footwear or other leather garments become wet from acrylonitrile, they should be replaced and not worn again, due to the ability of leather to absorb acrylonitrile and hold it against the skin. Since there is no pain associated with the blistering, it is essential that the employee be informed of this hazard so that he or she can be protected.

Any protective clothing which has developed leaks or is otherwise found to be defective should be repaired or replaced. Clean protective clothing shall be provided weekly to the employee, and whenever the clothing becomes wet with liquid AN or PAN. Employees are also required to wear splash-proof safety goggles where there is any possibility of acrylonitrile contacting the eyes.

VI. HOUSEKEEPING AND HYGIENE FACILITIES

For purposes of complying with 29 CFR 1910.141, the following items should be emphasized:

A. The workplace should be kept clean, orderly, and in a sanitary condition;

B. Dry sweeping and the use of compressed air is unsafe for the cleaning of floors and other surfaces where liquid AN or PAN may be found;

C. Adequate washing facilities with hot and cold water should be provided, and maintained in a sanitary condition. Suitable cleansing agents should also be provided to assure the effective removal of acrylonitrile from the skin;

D. Change or dressing rooms with individual clothes-storage facilities should be provided to prevent the contamination of street clothes with acrylonitrile. Because of the hazardous nature of acrylonitrile, contaminated protective clothing should be stored in closed containers for cleaning or disposal.

VII. MISCELLANEOUS PRECAUTIONS

A. Store acrylonitrile in tightly-closed containers in a cool, well-ventilated area, and take the necessary precautions to avoid an explosion hazard.

B. High exposure to acrylonitrile can occur when transferring the liquid from one container to another.

C. Non-sparking tools must be used to open and close metal acrylonitrile containers. These containers must be effectively grounded and bonded prior to pouring.

D. Never store uninhibited acrylonitrile. The inhibitor content shall be determined weekly.

E. Acrylonitrile vapors are not inhibited. They may form polymers and clog vents of storage tanks.

F. Use of supplied-air suits or other impervious coverings may be necessary to prevent skin contact and provide respiratory protection from with acrylonitrile where the concentration of acrylonitrile is unknown or is above the ceiling limit. Supplied-air suits should be selected, used, and maintained under the immediate supervision of persons knowledgeable in the limitations and potential life-endangering characteristics of supplied-air suits.

G. Employers shall advise employees of all areas and operations where exposure to acrylonitrile could occur.

VIII. COMMON OPERATIONS

Common operations in which exposure to acrylonitrile is likely to occur include the following: Manufacture of the acrylonitrile monomer; synthesis of acrylic fibers, ABS and SAN plastics, resins, nitrile rubber, surface coatings, specialty chemicals, use as a chemical intermediate, use as a fumigant and in the cyanoethylation of cotton.

APPENDIX C—MEDICAL SURVEILLANCE GUIDELINES FOR ACRYLONITRILE

I. ROUTE OF ENTRY

Inhalation; skin and absorption; ingestion.

II. TOXICOLOGY

Acrylonitrile vapor is an asphyxiant due to its inhibitory action on metabolic enzyme systems. Animals exposed to 75 or 100 ppm for 7 hours have shown signs of anoxia; in some animals which died at the higher level, cyanomethemoglobin was found in the blood. Two human fatalities from accidental poisoning have been reported; one was caused by inhalation of an unknown concentration of the vapor, and the other was thought to be caused by skin absorption or inhalation. Most cases of intoxication from industrial exposure have been mild, with rapid onset of eye irritation, headache, sneezing, and nausea. Weakness, lightheadedness, and vomiting may also occur. Exposure to high concentrations may produce profound weakness, asphyxia, and death. The vapor is a severe eye irritant. Prolonged skin contact with the liquid may result in absorption with systemic effects, and in the formation of large blisters after a latent period of several hours. Although there is usually little or no pain or inflammation, the affected skin resembles a second-degree thermal burn. Solutions spilled on exposed skin, or on areas covered only by a light layer of clothing, evaporate rapidly, leaving no irritation, or, at the most, mild transient redness. Repeated spills on exposed skin may result in dermatitis due to solvent effects.

Results after one year of a planned two-year animal study on the effects of exposure to acrylonitrile have indicated that rats ingesting as little as 35 ppm in their drinking water develop tumors of the central nervous system. The interim results of this study have been supported by a similar study being conducted by the same laboratory, involving exposure of rats by inhalation of acrylonitrile vapor, which has shown similar types of tumors in animals exposed to 80 ppm.

In addition, the preliminary results of an epidemiological study being performed by duPont on a cohort of workers in their Camden, South Carolina acrylic fiber plant indicate a statistically significant increase in the incidence of colon and lung cancer among employees exposed to acrylonitrile.

III. SIGNS AND SYMPTOMS OF ACUTE OVEREXPOSURE

Asphyxia and death can occur from exposure to high concentrations of acrylonitrile. Symptoms of overexposure include eye irritation, headache, sneezing, nausea and vomiting, weakness, and light-headedness. Prolonged skin contact can cause blisters on the skin, with the appearance of a second degree thermal burn, but with little or no pain. Repeated skin contact may produce scaling dermatitis.

IV. TREATMENT OF ACUTE OVEREXPOSURE

Remove employee from exposure. Immediately flush eyes with water and wash skin with soap or mild detergent and water. If AN has been swallowed and person is conscious, induce vomiting. Give artificial resuscitation if indicated. More severe cases, such as those associated with loss of consciousness, may be treated by the intravenous administration of sodium nitrite, followed by sodium thiosulfate, although this is not as effective for acrylonitrile poisoning as for inorganic cyanide poisoning.

V. SURVEILLANCE AND PREVENTIVE CONSIDERATIONS

A. As noted above, exposure to acrylonitrile has been linked to increase incidence of cancers of the colon and lung in employees of the duPont acrylic fiber plant in Camden, S.C. In addition, the animal testing of acrylonitrile has resulted in the development of cancers of the central nervous system in rats exposed by either inhalation or ingestion. The physician should be aware of the findings of these studies in evaluating the health of employees exposed to acrylonitrile.

Most reported acute effects of occupational exposure to acrylonitrile are due to its ability to cause tissue anoxia and asphyxia. The effects are similar to those caused by hydrogen cyanide. Liquid acrylonitrile can be absorbed through the skin upon prolonged contact. The liquid readily penetrated leather, and will produce burns of the feet if footwear contaminated with acrylonitrile is not removed.

It is important for the physician to become familiar with the operating conditions in which exposure to acrylonitrile may occur. Those employees with skin diseases may not tolerate the wearing of whatever protective clothing may be necessary to protect them from exposure. In addition, those with chronic respiratory disease may not tolerate the wearing of negative-pressure respirators.

B. Surveillance and screening. Medical histories and laboratory examinations are required for each employee subject to exposure to acrylonitrile above the action level. The employer must screen employees for history of certain medical conditions which might place the employee at increased risk from exposure.

1. *Central nervous system dysfunction.* Acute effects of exposure to acrylonitrile generally involve the central nervous system. Symptoms of acrylonitrile exposure include headache, nausea, dizziness, and general weakness. The animal studies cited above suggest possible carcinogenic effects of acrylonitrile on the central nervous system, since rats exposed by either inhalation or ingestion have developed similar CNS tumors.

2. *Respiratory disease.* The duPont data indicate an increased risk of lung cancer among employees exposed to acrylonitrile.

3. *Gastrointestinal disease.* The duPont data indicate an increased risk of cancer of the colon among employees exposed to acrylonitrile. In addition, the animal studies show possible tumorogenic effects on the stomachs of the rats in the ingestion study.

4. *Skin disease.* Acrylonitrile can cause skin burns when prolonged skin contact with the liquid occurs. In addition, repeated skin contact with the liquid can cause dermatitis.

5. *General.* The purpose of the medical procedures outlined in the standard is to establish a baseline for future health monitoring. Persons unusually susceptible to the effects of anoxia or those with anemia would be expected to be at increased risk. In addition to emphasis on the CNS, respiratory and gastrointestinal systems, the cardiovascular system, liver and kidney function should also be stressed.

APPENDIX REFERENCES

1. Communication from A. C. Clark, Manufacturing Chemists Association (MCA), to Douglas Costle, Environmental Protection Agency, dated April 11, 1977.

2. Norris, J. M., "Status Report on the 2-year Study Incorporating Acrylonitrile in the Drinking Water of Rats" (an MCA-sponsored study done by Dow Chemical), dated Jan. 12, 1977.

3. Quast, J. F., et al, "Toxicity of Drinking Water Containing Acrylonitrile (AN) in Rats: Results After 12 Months" (an MCA-sponsored study done by Dow Chemical), dated March 1977.

4. O'Berg, M. T., "Epidemiologic Study of Workers Exposed to Acrylonitrile: Preliminary Results," duPont Company, May 1977.

5. Kirk-Othmer Encyclopedia of Chemical Technology, 2nd ed. A. Stauden, Executive Editor, p. 319, 1972.

6. American Conference of Governmental Industrial Hygienists "Acrylonitrile," Documentation of the Threshold Limit Values for Substances in Workroom Air (3d Ed., 2d printing), Cincinnati, 1974, p. 6.

7. Manufacturing Chemists Association, Inc., Chemical Safety Data Sheet SD-31, "Acrylonitrile." Washington, D.C., 1974, pp. 16-19.

8. Brieger, H., et al., "Acrylonitrile: Spectrophotometric Determination, Acute Toxicity, and Mechanism of Action," A.M.A. Archive of Industrial Hygiene and Occupational Medicine, 6:128-140, 1952.

9. Wolfsie, J. H., "Treatment of Cyanide Poisoning in Industry," A.M.A. Archives of Industrial Hygiene and Occupational Medicine, 4:417-425, 1951.

10. Hygienic Guide Series: "Acrylonitrile," American Industrial Hygiene Association Journal, 18:78-79, 1957.

11. Patty, F. A., "Industrial Hygiene and Toxicology," Volume II: Toxicology (2d Ed., revised), Interscience Publishing Co., New York, 1963, pp. 1992, 2009-2012.

§ 1910.1046a Exposure to cotton dust in cotton gins.

(a) *Scope and application.* This section applies to the control of employee exposure to cotton dust in cotton gins.

(b) *Definitions.* For the purpose of this section:

"Assistant Secretary" means the Assistant Secretary of Labor for Occupational Safety and Health, U.S. Department of Labor, or designee;

"Blow down" means the cleaning of equipment and surface with compressed air;

"Cotton dust" means dust present in the air during the handling or processing of cotton which may contain a mixture of many substances including ground-up plant matter, fiber, bacteria, fungi, soil, pesticides, non-cotton plant matter and other contaminants which may have accumulated with the cotton during the growing, harvesting and subsequent processing or storage periods.

"Director" means the Director of the National Institute for Occupational Safety and Health (NIOSH), U.S.

Department of Health, Education, and Welfare, or designee.

(c) *Work practices.* Each employer shall immediately establish and implement a written program of work practices, which shall minimize cotton dust exposure for each specific job. Where applicable, the following work practices shall be included in the written work practices program:

(1) *General.* (i) All surfaces shall be maintained as free as practicable of accumulations of cotton dust.

(ii) The employer shall inspect, clean, maintain and repair, all engineering control equipment, production equipment and ventilation systems including power sources, ducts, and filtration units of the equipment, and at a minimum, tape or cover leaks in valves, flashing, elbows, and bands on air lines.

(iii) Cotton and cotton waste shall be stacked, sorted, baled, dumped, removed or otherwise handled by mechanical means except where the employer can show that it is infeasible to do so. Where infeasible, the method used for handling cotton and cotton waste shall be the method which most effectively reduces exposure to the lowest level feasible.

(2) *Specific.* (i) Floors and other accessible surfaces contaminated with cotton dust may not be cleaned by the use of compressed air.

(ii) Cleaning of clothing with compressed air is prohibited.

(iii) Floor sweeping shall be performed by a vacuum or with methods designed to minimize dispersal of dust.

(iv) Compressed air "blow-down" cleaning shall be prohibited, except where alternative means are not feasible. Where compressed air "blow-down" is done, respirators shall be worn by the employees performing the "blow-down," and employees in the area whose presence is not required to perform the "blow-down" shall be required to leave the area during this cleaning operation.

(3) *Workpractice plan.* A written workplace plan shall be kept which shall list appropriate schedules for carrying out housekeeping operations, and for cleaning and maintaining dust collection equipment. The plan shall be made available for inspection by the Assistant Secretary.

(d) *Use of Respirators*—(1) *General.* Where the use of respirators is required under this section, the employer shall provide, at no cost to the employee, and assure the use of respirators which comply with the requirements of this paragraph (d).

(2) *Use of respirators.* Respirators shall be used in the following circumstances:

(i) By workers identified by medical surveillance under paragraph (e)(6)(i)(*d*) of this section; or

(ii) During operations such as maintenance and repair activities, in which work practice controls are not feasible; or

(iii) In operations specified under paragraph (c)(2)(iv) of this section.

(3) *Availability upon request.* Respirators shall be made available upon request, to any employee exposed to cotton dust

(4) *Respirator selection.* (i) Where respirators are required under this section, the employer shall select, provide and assure the use of any respirator tested and approved for protection against dust by the National Institute of Occupational Safety and Health (NIOSH) under the provisions of 30 CFR Part 11.

(ii) Where respirators are required by this paragraph, the employer shall provide either any NIOSH approved respirator or at the option of each affected worker, a NIOSH approved powered air purifying respirator with a high efficiency filter.

(5) *Respirator program.* The employer shall institute a respirator program in accordance with § 1910.134 (b), (d), (e), and (f).

(6) *Respirator usage.* (i) The employer shall assure that the respirator used by each employee exhibits minimum facepiece leakage and that the respirator is fitted properly.

(ii) The employer shall allow each employee who uses a filter respirator to change the filter elements whenever an increase in breathing resistance is detected by the employee, and shall maintain an adequate supply of filter elements for this purpose.

(iii) The employer shall allow employees who wear respirators to wash their face and respirator facepiece to prevent skin irritation associated with respirator use.

(e) *Medical surveillance*—(1) *General.* (i) Each employer who has an operating gin in which cotton dust is present shall institute a program of medical surveillance for all employees exposed to cotton dust.

(ii) The employer shall assure that all medical examinations and procedures are performed by or under the supervision of a licensed physician, and are provided without cost to the employee.

(iii) Persons other than licensed physicians, who administer the pulmonary function testing required by this section, shall complete a NIOSH approved training course in spirometry.

(2) *Initial examinations.* For each ginning season, at the time of initial assignment, the employer shall provide each employee who is or may be exposed to cotton dust, with an opportunity for medical surveillance that shall include:

(i) A medical history;

(ii) The standardized questionnaire in Appendix B; and

(iii) A pulmonary function measurement, including a determination of forced vital capacity (FVC) and forced expiratory volume in 1 second (FEV_1), and the percentage that the measured values of FEV and FVC differ from the predicted values, using the standard tables in Appendix C.

(iv) Based upon the questionnaire results, each employee shall be graded according to Schilling's byssinosis classification system.

(3) *Mid-season retest.* The determinations required under paragraph (e)(2) of this section shall be made again for each employee after at least 14 days of employment and before the termination of employment for the season. The determinations shall be made following at least 24 hours or 1 working day after previous exposure to cotton dust. The pulmonary function tests shall be repeated during the shift, no sooner than 4 and no more than 10 hours after the beginning of the work shift; and, in any event, no more than 1 hour after cessation of exposure.

(4) *Periodic examinations.* (i) The employer shall provide the medical surveillance under this paragraph (e) annually.

(ii) A comparison shall be made between the current examination results and those of previous examinations and a determination made by the physician as to whether there has been a significant change.

(iii) An employee whose FEV_1 is less than 60 percent of the predicted value shall be referred to a physician for a detailed pulmonary examination.

(5) *Information provided to the physician.* The employer shall provide the following information to the examining physician:

(i) A copy of this regulation and its Appendices;

(ii) A description of the affected employee's duties as they relate to the employee's exposure;

(iii) A description of any personal protective equipment used or to be used; and

(iv) Information from previous medical examinations of the affected employee which is not readily available to the examining physician.

(6) *Physician's written opinion.* (i) The employer shall obtain and furnish the employee with a copy of the written opinion from the examining physician containing the following:

(*a*) The results of the medical examination and tests, including any determinations made under paragraph (e)(4)(ii) of this section.

(*b*) The physician's opinion as to whether the employee has any detected medical conditions which would place the employee at increased risk of material impairment of the employee's health from exposure to cotton dust;

(*c*) The physician's recommended limitations upon the employee's exposure to cotton dust or upon the employee's use of respirators;

(*d*) The physician's recommendations for the employee's use of a respirator where dust effects could be suppressed by respirator use;

(*e*) A statement that the employee has been informed by the physician of the results of the medical examination and any medical conditions which require further examination or treatment.

(ii) The written opinion obtained by the employer shall not reveal specific findings or diagnoses unrelated to occupational exposure.

(7) *Spanish speaking employees.* An employer whose workforce consists of a significant percentage of Spanish speaking workers who cannot communicate effectively in English shall provide bi-lingual administration of the medical surveillance requirements, including use of the Spanish questionnaire provided in Appendix B.

(8) *Non-duplication of medical surveillance.* (i) During any one ginning season, an employer is not required to provide medical surveillance as described in this paragraph (f) of this section for any employee who can demonstrate that both the background medical surveillance and the mid-season retest required by paragraph (e) of this section were administered during that ginning season while in the employment of another gin employer.

(ii) If an employee can demonstrate that the background medical surveillance has been administered but not the mid-season retest, the employer shall provide the mid-season medical retest of paragraph (e)(3) of this section, and comply with provisions of paragraphs (e)(4)—(e)(6) of this section. Where the employer is administering only the mid-season retest, the employer shall provide the mid-season retest after at least 14 days of employment in his gin and before termination of employment for the season.

(iii) For purposes of this section, where the employer does not administer any medical surveillance, the employer shall be satisfied that an employee has undergone the medical surveillance required under paragraphs (e)(1) to (e)(3) of this section upon receipt of written notification from the employer who administered the test, or upon receipt by the physician supervising the program, of a copy of the results of medical surveillance.

(f) *Employee education and training.*—(1) *Training program.* (i) Each employer who operates an active gin shall institute a training program for all his employees, prior to initial assignment, and shall assure that each employee is informed of the following:

(*a*) The specific nature of the operations which could result in exposure to cotton dust;

(*b*) The measures, including work practices, required by paragraph (c) of this section, necessary to protect the employee from excess exposures;

(*c*) The purpose, proper use and limitations of respirators required by paragraph (d) of this section;

(*d*) The purpose for and a description of the medical surveillance program required by paragraph (e) of this section; and other information which will aid exposed employees in understanding the hazards of cotton dust exposure; and

(*e*) The contents of this standard and its appendices.

(2) *Access to training materials.* (i) Each employer shall post a copy of this section with its Appendices in a public location at the workplace, and shall, upon request, make copies available to employees.

(ii) The employer shall provide all materials relating to the employee training and information program to the Assistant Secretary and the Director upon request.

(iii) An employer whose workforce consists of a significant percentage of Spanish speaking employees who cannot communicate effectively in English shall provide bi-lingual administration of the provisions of this section.

(iv) In addition to the information required by paragraph (f)(1), the employer shall include as part of his training program and distribute to employees any materials pertaining to the Occupational Safety and Health Act, the regulations issued pursuant to that Act, and to this cotton dust standard which are made available by the Assistant Secretary.

(g) *Signs.*—(1) The employer shall post the following warning sign in each work area where there is potential exposure to cotton dust:

WARNING:

COTTON DUST WORK AREA MAY CAUSE ACUTE OR DELAYED LUNG INJURY (BYSSINOSIS).

(2) An employer whose workforce consists of a significant percentage of Spanish-speaking employees who cannot communicate effectively in English shall provide bilingual versions of the sign required by paragraph (g)(1) of this section.

(h) *Recordkeeping.*—(1) *Medical surveillance.* (i) The employer shall establish and maintain an accurate medical record for each employee subject to medical surveillance required by paragraph (e) of this section.

(ii) The record shall include:

(*a*) The name, social security number and description of the duties of the employee;

(*b*) A copy of the medical surveillance results including the medical history, questionnaire responses, results of all tests and the physician's recommendation;

(*c*) A copy of the physician's written opinion;

(*d*) Any employee medical complaints related to exposure to cotton dust;

(*e*) The type of protective devices worn, and length of time worn;

(*f*) A copy of this standard and its appendices, except that the employer may keep one copy of the standard and its appendices for all employees: *Provided,* That he references the standard in the medical surveillance records of each employee.

(iii) The employer shall maintain this record for at least 10 years.

(2) *Availability.* (i) The employer shall make available upon request all records required to be maintained by paragraph (h) of this section to the Assistant Secretary and the Director for examination and copying.

(ii) The employer shall make available an employee's medical records required by this section, for examination and copying, to the affected employee or former employee or to a physician or other individual designated by such affected employee or former employee.

(3) *Transfer of records.* (i) Whenever the employer ceases to do business, the successor employer shall receive and retain all records required to be maintained by paragraph (h) of this section.

(ii) Whenever the employer ceases to do business, and there is no successor employer to receive and retain the records for the prescribed period, these records shall be transmitted to the Director.

(iii) At the expiration of the retention period for the records required to be maintained by this section, the employer shall notify the Director at least 3 months prior to the disposal of such records and shall transmit those records to the Director if he requests them within that period.

(i) *Effective date.* This standard shall become effective on September 4, 1978 except for provisions requiring medical surveillance and respirators for employees who are at an increased exposure to cotton dust which shall become effective on September 4, 1979.

(j) *Appendices.* (1) Appendices to this section are incorporated as part of this section and the contents of these appendices are mandatory.

APPENDIX A.—RECOMMENDATIONS FOR CLASSIFICATION AND RESPIRATORY USE OF WORKERS EXPOSED TO COTTON DUST IN GINS

Functional severity	FEV 1 (percent of predicted)	FEV 1 (percent)
F0	Greater than 80 (no evidence of chronic ventilatory impairment).	(a) −4 to 0; or more. (b) −9 to −5 or more. (c) −10 or more.
F1	60-79 (evidence of slight to moderate irreversible impairment of ventilatory capacity).	(a) −4 to 0; or more. (b) −5 or more.
F2	Less than 60 (evidence of moderate to severe irreversible impairment of ventilatory capacity).	

NOTE.—These recommendations are generally accepted criteria for classification and management of workers exposed to cotton dust. Since medical removal provisions are not included in the standard, OSHA believes them to constitute equally useful criteria for the physician to use in determining whether a gin worker is suffering any degree of functional severity which calls for respiratory protection.

Although these criteria are advisory, a worker who falls in the F2 category of functional severity shall be sent to a pulmonary physician according to § 1910.1046a(e)(4)(iii).

[4510-26-C]

APPENDIX B-1
RESPIRATORY QUESTIONNAIRE

A. IDENTIFICATION DATA

PLANT ________________ SOCIAL SECURITY NO. ________________
DAY MONTH YEAR
(figures) (last 2 digits)

NAME ________________ DATE OF INTERVIEW ________________
(Surname)

________________ DATE OF BIRTH ________________
(First Names) M F

ADDRESS ________________ AGE ________ (8,9) SEX ________________ (10)

________________ RACE ☐ W ☐ N ☐ IND. ☐ OTHER (11)

INTERVIEWER: 1 2 3 4 5 6 7 8 (12)

WORK SHIFT: 1st ________ 2nd ________ 3rd ________ (13) STANDING HEIGHT ________ (14,15)

PRESENT WORK AREA WEIGHT ________ (16,18)

If working in more than one specified work area, X area where most of the work shift is spent. If "other," but spending 25% of the work shift in one of the specified work areas, classify in that work area. If carding department employee, check area within that department where most of the work shift is spent (if in doubt, check "throughout"). For work areas such as spinning and weaving where many work rooms may be involved, be sure to check the specific work room to which the employee is assigned — if he works in more than one work room within a department classify as 7 (all) for that department.

	Workroom Number	(19) Open	(20) Pick	Area	(21) Card #1	(22) #2	(23) Spin	(24) Wind	(25) Twist	(26) Spool	(27) Warp	(28) Slash	(29) Weave	(30) Other
AT RISK (cotton & cotton blend)	1			Cards										
	2			Draw										
	3			Comb										
	4			Rove										
	5			Thru Out										
	6													
	7 (all)													
Control (synthetic & wool)	8													
Ex-Worker (cotton)	9													

Use actual wording of each question. Put X in appropriate square after each question. When in doubt record 'No'.
When no square, circle appropriate answer.

B. COUGH

(on getting up)†
Do you usually cough first thing in the morning?____________________ Yes____ No________ (31)
(Count a cough with first smoke or on "first going out of doors."
Exclude clearing throat or a single cough.)

Do you usually cough during the day or at night?____________________ Yes____ No________ (32)
(Ignore an occasional cough.)

If 'Yes' to either question (31-32):

Do you cough like this on most days for as much as three months a year?____________ Yes____ No________ (33)

Do you cough on any particular day of the week? Yes____ No________ (34)

(1) (2) (3) (4) (5) (6) (7)
If 'Yes': Which day? Mon. Tues. Wed. Thur. Fri. Sat Sun. (35)

C. PHLEGM or alternative word to suit local custom.

(on getting up)†
Do you usually bring up any phlegm from your chest first thing in the morning? (Count phlegm with the first smoke or on "first going out of doors." Exclude phlegm from the nose. Count swallowed phlegm.)____________________ Yes____ No________ (36)

Do you usually bring up any phlegm from your chest during the day or at night? (Accept twice or more.)____________________ Yes____ No________ (37)

If 'Yes' to either question (36) or (37):

Do you bring up phlegm like this on most days for as much as three months each year?____________________ Yes____ No________ (38)

If 'Yes' to question (33) or (38):

(cough)
How long have you had this phlegm?
(Write in number of years

(1) ☐ 2 years or less (39)
(2) ☐ More than 2 years-9 years
(3) ☐ 10-19 years
(4) ☐ 20+ years

†These words are for subjects who work at night

D. CHEST ILLNESSES

In the past three years, have you had a period of (increased) †cough and phlegm lasting for 3 weeks or more?____________________

(1) ☐ No (40)
(2) ☐ Yes, only one period
(3) ☐ Yes, two or more periods

†For subjects who usually have phlegm

During the past 3 years have you had any chest illness which has kept you off work, indoors at home or in bed? (For as long as one week, flu?) Yes____ No________ (41)

If 'Yes' to (41): Did you bring up (more) phlegm than usual in any of these illnesses? Yes____ No________ (42)

If 'Yes' to (42): During the past three years have you had:
Only one such illness with increased phlegm? (1) ☐ (43)
More than one such illness: (2) ☐ (44)

Br. Grade____________________

E. TIGHTNESS

Does your chest ever feel tight or your breathing become difficult? __________ Yes ______ No ______ (45)

Is your chest tight or your breathing difficult on any particular day of the week? (after a week or 10 days away from the mill) __________ Yes ______ No ______ (46)

		(3)	(4)	(5)	(6)	(7)	(8)	
If 'Yes': Which day?	Mon.	Tues.	Wed.	Thur.	Fri.	Sat.	Sun.	(47)
	(1) Sometimes	(2) Always						

If 'Yes' Monday: At what time on Monday does your chest feel tight or your breathing difficult?
1 ☐ Before entering the mill (48)
2 ☐ After entering the mill

(Ask only if NO to Question (45)

In the past, has your chest ever been tight or your breathing difficult on any particular day of the week? __________ Yes ______ No ______ (49)

		(3)	(4)	(5)	(6)	(7)	(8)	
If 'Yes': Which day?	Mon.	Tues.	Wed.	Thur.	Fri.	Sat.	Sun.	(50)
	(1) Sometimes	(2) Always						

F. BREATHLESSNESS

If disabled from walking by any condition other than heart or lung disease put "X" here and leave questions (52-60) unasked. ☐ (51)

Are you ever troubled by shortness of breath, when hurrying on the level or walking up a slight hill? __________ Yes ______ No ______ (52)

If 'No', grade is 1. If Yes', proceed to next question

Do you get short of breath walking with other people at an ordinary pace on the level? __________ Yes ______ No ______ (53)

If 'No', grade is 2. If 'Yes', proceed to next question

Do you have to stop for breath when walking at your own pace on the level? __________ Yes ______ No ______ (54)

If 'No', grade is 3. If 'Yes', proceed to next question

Are you short of breath on washing or dressing? __________ Yes ______ No ______ (55)

If 'No', grade is 4. If 'Yes', grade is 5.

Dyspnea Grd. __________ (56)

ON MONDAYS:

Are you ever troubled by shortness of breath, when hurrying on the level or walking up a slight hill? __________ Yes ______ No ______ (57)

If 'No', grade is 1. If 'Yes', proceed to next question

Do you get short of breath walking with other people at an ordinary pace on the level? __________ Yes ______ No ______ (58)

If 'No', grade is 2. If 'Yes', proceed to next question

Do you have to stop for breath when walking at your own pace on the level? __________ Yes ______ No ______ (59)

If 'No', grade is 3. If 'Yes', proceed to next question

Are you short of breath on washing or dressing? __________ Yes ______ No ______ (60)

If 'No', grade is 4. If 'Yes', grade is 5

B. Grd. __________ (61)

G. OTHER ILLNESSES AND ALLERGY HISTORY

Do you have a heart condition for which you are under a doctor's care? ______ Yes ______ No ______ (62)

Have you ever had asthma? Yes No (63)

If 'Yes', did it begin: (1) ☐ Before age 30
(2) ☐ After age 30

If 'Yes' before 30: did you have asthma before ever going to work in a textile mill? ______ Yes ______ No ______ (64)

Have you ever had hay fever or other allergies (other than above)? ______ Yes ______ No ______ (65)

H. TOBACCO SMOKING*

Do you smoke?

Record 'Yes' if regular smoker up to one month ago. (Cigarettes, cigar or pipe) ______ Yes ______ No ______ (66)

If 'No' to (63).

Have you ever smoked? (Cigarettes, cigars, pipe. Record 'No' if subject has never smoked as much as one cigarette a day, or 1 oz. of tobacco a month, for as long as one year.) ______ Yes ______ No ______ (67)

If 'Yes' to (63) or (64); what have you smoked and for how many years? (Write in specific number of years in the appropriate square)

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	
Years	(<5)	(5-9)	(10-14)	(15-19)	(20-24)	(25-29)	(30-34)	(35-39)	(>40)	
Cigarettes										(68)
Pipe										(69)
Cigars										(70)

If cigarettes, how many packs per day? (Write in number of cigarettes)

(1) ☐ less than 1/2 pack (71)
(2) ☐ 1/2 pack, but less than 1 pack
(3) ☐ 1 pack, but less than 1-1/2 packs
(4) ☐ 1-1/2 packs or more

Number of pack years: ______ (72,73)

If an ex-smoker (cigarettes, cigar or pipe), how long since you stopped? (Write in number of years) ______ (74)

(1) ☐ 0-1 year
(2) ☐ 1-4 years
(3) ☐ 5-9 years
(4) ☐ 10+ years

*Have you changed your smoking habits since last interview? If yes, specify what changes.

I. OCCUPATIONAL HISTORY**

Have you ever worked in: A foundry? (As long as one year) ______ Yes ______ No ______ (75)

Stone or mineral mining, quarrying or processing? (As long as one year) ______ Yes ______ No ______ (76)

Asbestos milling or processing? (Ever) ______ Yes ______ No ______ (77)

Other dusts, fumes or smoke? If yes, specify: ______ Yes ______ No ______ (78)

Type of exposure ______

Length of exposure ______

**Ask only on first interview.

At what age did you first go to work in a textile mill? (Write in specific age in appropriate square).

(1)	(2)	(3)	(4)	(5)	(6)
<20	20-24	25-29	30-34	35-39	40+

When you first worked in a textile mill, did you work with (1) ☐ Cotton or cotton blend (79)
(2) ☐ Synthetic or wool (80)

APPENDIX. B-II

Respiratory Questionnaire

Non-Textile Workers for the Cotton Industry

Identification No. **Interviewer Code**

Location **Date of Interview**

A. IDENTIFICATION

1. NAME (Last) (First) (Middle Initial)

3. PHONE NUMBER
AREA CODE (   )
NO.

4. SOCIAL SECURITY #
(optional see below)
☐

2. CURRENT ADDRESS (Number, Street, or Rural Route,
City or Town, County, State,
Zip Code)

5. BIRTHDATE
(Mo., Day, Yr.)

6. AGE LAST BIRTHDAY

7. SEX

1 ☐ Male 2 ☐ Female

8. ETHNIC GROUP OR ANCESTRY

1. ☐ White, not of Hispanic Origin
2. ☐ Black, not of Hispanic Origin
3. ☐ Hispanic
4. ☐ American Indian or Alaskan Native
5. ☐ Asian or Pacific Islander
6. ☐ Other: ____________________

9. STANDING HEIGHT

____________ (cm)

10. WEIGHT

____

11. WORK SHIFT

1st ☐ 2nd ☐ 3rd ☐

12. PRESENT WORK AREA

Please indicate primary assigned work area and percent of time spent at that site. If at other locations, please indicate and note percent of time for each.

PRIMARY WORK AREA	
SPECIFIC JOB	

13. APPROPRIATE INDUSTRY

1 ☐ Garnetting
2 ☐ Cottonseed Oil Mill
3 ☐ Cotton Warehouse
4 ☐ Utilization
5 ☐ Cotton Classification
6 ☐ Cotton Ginning

(Furnishing your Social Security number is voluntary. Your refusal to provide this number will not affect any right, benefit, or privilege to which you would be entitled if you did provide your Social Security number. Your Social Security number is being requested since it will permit use in future determinations in statistical research studies.)

B. OCCUPATIONAL HISTORY TABLE

Complete the following table showing the entire work history of the individual from present to initial employment. Sporadic, part-time periods of employment, each of no significant duration, should be grouped if possible.

INDUSTRY AND LOCATION	TENURE OF EMPLOYMENT		SPECIFIC OCCUPATION	AVERAGE NO. DAYS WORKED PER WEEK	HAZARDOUS HEALTH EXPOSURE ASSOCIATED WITH WORK		
	FROM 19__	TO 19__			YES	NO	IF YES, DESCRIBE

C. SYMPTOMS

Use actual wording of each question. Put X in appropriate square after each question. When in doubt record "No".

COUGH.

1. Do you usually cough first thing in the morning? (on getting up)* (Count a cough with first smoke or on "first going out of doors". Exclude clearing throat or a single cough.) 1 ☐ Yes 2 ☐ No

2. Do you usually cough during the day or at night? (Ignore an occasional cough.) 1 ☐ Yes 2 ☐ No

If YES to either question 1 or 2:

3. Do you cough like this on most days for as much as three months a year? 1 ☐ Yes 2 ☐ No 9 ☐ NA

4. Do you cough on any particular day of the week? 1 ☐ Yes 2 ☐ No

If YES:

5. Which day? Mon. Tue. Wed. Thur. Fri. Sat. Sun. __________

PHLEGM

6. Do you usually bring up any phlegm from your chest first thing in the morning? (on getting up)* (Count phlegm with the first smoke or on "first going out of doors." Exclude phlegm from the nose. Count swallowed phlegm.) 1 ☐ Yes 2 ☐ No

7. Do you usually bring up any phlegm from your chest during the day or at night? (Accept twice or more.) 1 ☐ Yes 2 ☐ No

If YES to either question 6 or 7:

8. Do you bring up phlegm like this on most days for as much as three months each year? 1 ☐ Yes 2 ☐ No

If YES to question 3 or 8:

9. How long have you had this phlegm? (cough) (Write in number of years)
   - (1) ☐ 2 years or less
   - (2) ☐ More than 2 years - 9 years
   - (3) ☐ 10-19 years
   - (4) ☐ 20+ years

*These words are for subjects who work at night

CHEST ILLNESS

10. In the past three years, have you had a period of (increased) cough and phlegm lasting for 3 weeks or more?

(1) ☐ No

(2) ☐ Yes, only one period

(3) ☐ Yes, two or more periods

For subjects who usually have phlegm:

11. During the past 3 years have you had any chest illness which has kept you off work, indoors at home or in bed? (For as long as one week, flu?) 1 ☐ Yes 2 ☐ No

If YES to 11:

12. Did you bring up (more) phelgm than usual in any of these illnesses? 1 ☐ Yes 2 ☐ No

If YES to 12: During the past three years have you had:

13. Only one such illness with increased phelgm? 1 ☐ Yes 2 ☐ No

14. More than one such illness: 1 ☐ Yes 2 ☐ No

Br. Brade ________

TIGHTNESS

15. Does your chest ever feel tight or your breathing become difficult? 1 ☐ Yes 2 ☐ No

16. Is your chest tight or your breathing difficult on any particular day of the week? (after a week or 10 days away from the mill) 1 ☐ Yes 2 ☐ No

17. If YES, Which day? Mon. (3) Tues. (4) Wed. (5) Thur. (6) Fri. (7) Sat. (8) Sun

(1) Sometimes (2) Always

18. If YES Monday: At what time on Monday does your chest feel tight or your breathing difficult?

☐ Before entering mill

☐ After entering mill

(ASK ONLY IF NO TO QUESTION 15)

19. In the past, has your chest ever been tight or your breathing difficult on any particular day of the week? 1 ☐ Yes 2 ☐ No

20. If YES, Which day? Mon. (3) Tues. (4) Wed. (5) Thur. (6) Fri. (7) Sat. (8) Sun.

(1) Sometimes (2) Always

BREATHLESSNESS

21. If disabled from walking by any condition other than heart or lung disease put "X" in the space and leave questions (22-30) unasked. ☐

22. Are you ever troubled by shortness of breath, when hurrying on the level or walking up a slight hill? 1 ☐ Yes 2 ☐ No

If NO, grade is 1. If YES, proceed to next question

23. Do you get short of breath walking with other people at an ordinary pace on the level? 1 ☐ Yes 2 ☐ No

If NO, grade is 2. If YES, proceed to next question

24. Do you have to stop for breath when walking at your own pace on the level? 1 ☐ Yes 2 ☐ No

If NO, grade is 3. If YES, proceed to next question

25. Are you short of breath on washing or dressing? 1 ☐ Yes 2 ☐ No

If NO, grade is 4. If YES, grade is 5.

26. Dyspnea Grd. ______________

ON MONDAYS:

27. Are you ever troubled by shortness of breath, when hurrying on the level or walking up a slight hill? 1 ☐ Yes 2 ☐ No

If NO, grade is 1. If YES, proceed to next question

28. Do you get short of breath walking with other people at an ordinary pace on the level? 1 ☐ Yes 2 ☐ No

If NO, grade is 2, If YES, proceed to next question

29. Do you have to stop for breath when walking at your own pace on the level? 1 ☐ Yes 2 ☐ No

If NO, grade is 3. If YES, proceed to next question

30. Are you short of breath on washing or dressing? 1 ☐ Yes 2 ☐ No

If NO, grade is 4. If YES, grade is 5

31. B. Grd. ______________

OTHER ILLNESSES AND ALLERGY HISTORY

32. Do you have a heart condition for which you are under a doctor's care? 1 ☐ Yes 2 ☐ No

OTHER ILLNESSES AND ALLERGY HISTORY CONTINUED:

33. Have you ever had asthma? 1 ☐ Yes 2 ☐ No

If yes, did it begin: (1) Before age 30 ☐

(2) After age 30 ☐

34. If yes before 30: did you have asthma before ever going to work in a textile mill? 1 ☐ Yes 2 ☐ No

35. Have you ever had hay fever or other allergies (other than above)? 1 ☐ Yes 2 ☐ No

TOBACCO SMOKING

36. Do you smoke? 1 ☐ Yes 2 ☐ No
Record Yes if regular smoker up to one month ago. (Cigarettes, cigar or pipe)

If NO to (33).

37. Have you ever smoked? (Cigarettes, cigars, pipe. Record NO if subject has never smoked as much as one cigarette a day, or 1 oz. of tobacco a month, for as long as one year.) 1 ☐ Yes 2 ☐ No

If Yes to (33) or (34); what have you smoked for how many years? (Write in specific number of years in the appropriate square)

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Years	(<5)	(5-9)	(10-14)	(15-19)	(20-24)	(25-29)	(30-34)	(35-39)	(>40)
38. Cigarettes									
39. Pipe									
40. Cigars									

41. If cigarettes, how many packs per day? Write in number of cigarettes ________

☐ Less than 1/2 pack
☐ 1/2 pack, but less than 1 pack
☐ 1 pack, but less than 1 1/2 packs
☐ 1-1/2 packs or more

42. Number of pack years: ________

43. If an ex-smoker (cigarettes, cigar or pipe), how long since you stopped? (Write in number of years.) ________

☐ 0-1 year
☐ 1-4 years
☐ 5-9 years
☐ 10+ years

OCCUPATIONAL HISTORY

Have you ever worked in:

44. A foundry? (As long as one year) 1 ☐ Yes 2 ☐ No

45. Stone or mineral mining, quarrying or processing? (As long as one year) 1 ☐ Yes 2 ☐ No

46. Asbestos milling or processing? (Ever) 1 ☐ Yes 2 ☐ No

47. Cotton or cotton blend mill? (For controls only) 1 ☐ Yes 2 ☐ No

48. Other dusts, fumes or smoke? If yes, specify. 1 ☐ Yes 2 ☐ No

Type of exposure ______________________

Length of exposure ______________________

APPENDIX B-III

ABBREVIATED RESPIRATORY QUESTIONNAIRE

A. IDENTIFICATION DATA

PLANT____________________ SOCIAL SECURITY NO.____________________

DAY MONTH (figures) YEAR (last 2 digits)

NAME____________________ DATE OF INTERVIEW____________________
(Surname)

____________________ DATE OF BIRTH____________________
(First Names) M F

ADDRESS____________________ AGE__________(8,9) SEX____________________(10)

____________________ RACE ☐ W ☐ N ☐ IND. ☐ OTHER (11)

INTERVIEWER: 1 2 3 4 5 6 7 8 (12)

WORK SHIFT: 1st__________ 2nd__________ 3rd__________(13) STANDING HEIGHT__________(14,15)

PRESENT WORK AREA WEIGHT____________________(16,18)

If working in more than one specified work area, X area where most of the work shift is spent. If "other," but spending 25% of the work shift in one of the specified work areas, classify in that work area. If carding department employee, check area within that department where most of the work shift is spent (if in doubt, check "throughout"). For work areas such as spinning and weaving where many work rooms may be involved, be sure to check the specific work room to which the employee is assigned — if he works in more than one work room within a department classify as 7 (all) for that department.

	Workroom Number	(19) Open	(20) Pick	Area	(21) Card #1	(22) #2	(23) Spin	(24) Wind	(25) Twist	(26) Spool	(27) Warp	(28) Slash	(29) Weave	(30) Other
AT RISK (cotton & cotton blend)	1			Cards										
	2			Draw										
	3			Comb										
	4			Rove										
	5			Thru Out										
	6													
	7 (all)													
Control (synthetic & wool)	8													
Ex-Worker (cotton)	9													

Use actual wording of each question. Put X in appropriate square after each question. When in doubt record 'No'. When no square, circle appropriate answer.

B. COUGH

(on getting up)†
Do you usually cough first thing in the morning?____________________Yes____No______(31)
(Count a cough with first smoke or on "first going out of doors." Exclude clearing throat or a single cough.)

Do you usually cough during the day or at night?____________________Yes____No______(32)
(Ignore an occasional cough.)

If 'Yes' to either question (31-32):

Do you cough like this on most days for as much as three months a year?__________Yes____No______(33)

Do you cough on any particular day of the week? Yes____No______(34)

(1) (2) (3) (4) (5) (6) (7)
If 'Yes': Which day? Mon. Tues. Wed. Thur. Fri. Sat Sun. (35)

C. PHLEGM or alternative word to suit local custom.

(on getting up)†
Do you usually bring up any phlegm from your chest first thing in the morning? (Count phlegm with the first smoke or on "first going out of doors." Exclude phlegm from the nose. Count swallowed phlegm.)____________________Yes____No______(36)

Do you usually bring up any phlegm from your chest during the day or at night? (Accept twice or more.)____________________Yes____No______(37)

If 'Yes' to either question (36) or (37):

Do you bring up phlegm like this on most days for as much as three months each year?____________________Yes____No______(38)

If 'Yes' to question (33) or (38):

(cough)
How long have you had this phlegm?
(Write in number of years

(1) ☐ 2 years or less
(2) ☐ More than 2 years-5 years
(3) ☐ 10-19 years
(4) ☐ 20+ years

†These words are for subjects who work at night

D. TIGHTNESS

Does your chest ever feel tight or your breathing become difficult?__________Yes______No____ (39)

Is your chest tight or your breathing difficult on any particular day of the week? (after a week or 10 days away from the mill)__________Yes______No____ (40)

If 'Yes': Which day? Mon. (1) Sometimes (2) Always (3) Tues. (4) Wed. (5) Thur. (6) Fri. (7) Sat. (8) Sun. (41)

If 'Yes' Monday: At what time on Monday does your chest feel tight or your breathing difficult?
1 ☐ Before entering the mill (42)
2 ☐ After entering the mill

(Ask only if NO to Question (45)

In the past, has your chest ever been tight or your breathing difficult on any particular day of the week?__________Yes______No____ (43)

If 'Yes': Which day? Mon. (1) Sometimes (2) Always (3) Tues. (4) Wed. (5) Thur. (6) Fri. (7) Sat. (8) Sun. (44)

E. TOBACCO SMOKING

*Have you changed your smoking habits since last interview? If yes, specify what changes.

APPENDIX B-IV
Cuestionario Medico

1. **Nótese: ¿ Muestra el sujeto señales de resfraido o síntomas de grave infección respiratoria?** ☐ Sí ☐ No (1)

2. **Caso núm.** ______________ (2-6)

A. DATOS DE IDENTIFICACION

3. **Desmotadora:** ____________________ (7-11)

4. **Nombre:** ________________________
(Apellido)
____
(Nombre de pila)

5. **Dirección:** ____________________
____
(Ciudad)

6. **Entrevistador: 1 2 3 4 5 6 7 8 (12-13)**

7. **Turno de Trabajo: 1 ____ 2 ____ (14)**

8. **Sitio de Trabajo Actual: (15)**
   - a. Balancero
   - b. Corralero
   - c. Succionero
   - d. Desmotador
   - e. Ayudante de desmotador
   - f. Comprimidor
   - g. Desemillador
   - h. Basurero
   - i. Quitahilachas
   - j. Embalador

9. **Número de Seguro Social**
____-____-____ (16-24)

10. **Fecha de Entrevista:**
Mes Día Año
___/ ___/ ___/ (25-30)

11. **Hora:** ________ de la mañana
de la tarde

12. **Fecha de Nacimiento:**
Mes Día Año
___/ ___/ ___/

13. **Edad:** ____________ (31-32)

14. **Sexo: Varón___ Hembra ___ (33)**

15. **Raza: B___N___M___O___ (34)**

16. **Altura Medida:____(Pulgadas) (35-37)**

17. **Peso Medido:______(Libras) (38-40)**

SINTOMAS RESPIRATORIAS

EMPLÉENSE LAS PALABRAS EXACTAS DE CADA PREGUNTA. PÓNGASE UNA "X" EN LA CASILLA QUE SIGUE CADA PREGUNTA. EN CASO DE DUDA, PÓNGASE "NO". DONDE NO HAY CASILLA, PÓNGASE UN CÍRCULO ALREDEDOR DE LA RESPUESTA APROPIADA.

INTRODUCCIÓN: LE VOY A HACER UNAS PREGUNTAS, POR LA MAYOR PARTE ACERCA DE LOS PULMONES. QUIERO QUE CONTESTE CON "SÍ" O "NO" CUANDO SEA POSIBLE.

B. LA TOS

18. **¿ Tose Ud. ordinariamente al levantarse por la mañana?** ☐ Sí ☐ No (41)

19. **¿ Tose Ud. ordinariamente de dia o de moche?** ☐ Sí ☐ No (42)

20. **Si se contesta "Sí" a la pregunta 18 o 19, pregúntese: ¿ Ha tosido así la mayoría de los días por un periodo de 3 meses durante el año pasado?** ☐ Sí ☐ No ☐ NR (43)

21. **Si se contesta "Sí" a 20, pregúntese: ¿ Cuántos años hace que tose de esta manera?**

Menos de 2 años	Más de 2 años	NR	
________	________	__	(44-45)

(Page 2)

C. LA FLEMA (u otra palabra de uso local):

22. ¿Se arranca Ud. flema del pecho ordinariamente al levantarse? (Tenga en cuenta la flema arrancada al fumar o al salir de la casa por primera vez. No tenga en cuenta los mucos nasales. Tenga en cuenta la flema que se traga.)

☐ Sí ☐ No (46)

23. ¿Se arranca Ud. alguna flema del pecho ordinariamente de día o de noche? (Nótense sólo 2 veces o más)

☐ Sí ☐ No (47)

24. Si se contesta "Sí" a la pregunta 22 o 23, pregúntese: ¿Se ha arrancado flemas la mayoría de los días por un periodo de 3 meses durante el año pasado?

☐ Sí ☐ No ☐ NR (48)

25. Si se contesta "Sí" a 24, pregúntese: ¿Cuántos años hace que se arranca flemas así? ________Años

Menos de 2 años ______ Mas de 2 años ______ NR ______ (49-50)

D. ENFERMEDADES PULMONARIAS

26. ¿Durante los tres años pasados, ha pasado algún periodo de tos* (aumentada) y flemas que duró 3 semanas o más?

* Sujetos que ordinariamente se arrancan flemas

☐ No
☐ Sí, uno solo
☐ Sí, dos o más (51)

27. ¿Ha tenido Ud. durante los 3 años pasados alguna enfermedad del pecho que le haya impedido a trabajar o le haya obligado a permanecer en casa, en cama por tanto como una semana? (Por ejemplo: ¿la gripe?)

☐ Sí ☐ No (52)

28. Si se contesta "Sí" a 27, pregúntese: ¿se arrancó Ud. más flemas que lo general durante alguno de estos ataques?

☐ Sí ☐ No ☐ NR (53)

29. Si se contesta "Sí" a 28, pregúntese: ¿Ha tenido durante los tres anos pasados:

Sólo un tal ataque con aumento de flemas? ____
Más de uno? ____
No cabe ____ (54)

30. Br. Grade

0________(0)
1________(1)
2________(2)
3________(3) (55)

31. ¿Resuella ruidosamente o tiene silbidos alguna vez en el pecho?

☐ Sí ☐ No (56)

32. Si se contesta "Sí" a 31, pregúntese: ¿Cuántas veces por año pasa eso? _____Veces

Menos de 50 ________ Más de 50 ________ NR ____ (57-58)

(Page 3)

E. LA DISPNEA (desaliento)

33. Sufre Ud. ataques de desaliento que no se relacionan con ningún esfuerzo físico? ☐ Sí ☐ No (59)

34. Si se contesta "Sí" a 33, pregúntese: Cuántos de tales ataques ha sufrido durante el año pasado? _____Ataques

Menos de 50 ________ Mas de 50 ________ NR ___ (60-61)

35. Si se inhabilita de caminar a causa de cualquier condicion que no sea enfermedad del corazón o del pecho, ponga una "X" y especifique: ___ ______________ (62)

36. ¿Lo aflige un desaliento al caminar aprisa en terreno llano o al subir una pequeña cuesta? ☐ Sí ☐ No (63)

(Si "No," el grado es 1. Si es "Sí," siga a la pregunta siguiente.)

37. ¿Lo aflige un desaliento al caminar con otros de su propia edad a su paso ordinario en terreno llano? ☐ Sí ☐ No ☐ NR (64)

(Si "No," el grado es 2. Si es "Sí," prosiga)

38. ¿Tiene que detenerse porque se ahoga al caminar a paso ordinario en terreno llano? ☐ Sí ☐ No ☐ NR (65)

(Si "No," el grado es 3. Si es "Sí," prosiga)

39. ¿Se desalienta al lavarse o vestirse? ☐ Sí ☐ No ☐ NR (66)

(Si "No," el grado es 4. Si es "Sí," el grado es 5)

40. Dyspnea Grd.______________________________ (67)

Introducción para las preguntas 40-43:

EL PRIMER DIA DE VUELTA AL TRABAJO DESPUES DE SUS DIAS LIBRES:

41. ¿Lo aflige un desaliento al caminar aprisa en terreno llano o al subir una pequeña cuesta? ☐ Sí ☐ No (68)

(Si "No," el grado es 1. Si es "Sí," siga a la pregunta siguiente.)

42. ¿Lo aflige un desaliento al caminar con otros de su propia edad a su paso ordinario en terreno llano? ☐ Sí ☐ No ☐ NR (69)

(Si "No," el grado es 2. Si es "Sí," prosiga)

43. ¿Tiene que detenerse porque se ahoga al caminar a paso ordinario en terreno llano? ☐ Sí ☐ No ☐ NR (70)

(Si "No," el grado es 3. Si es "Sí," prosiga)

44. ¿Se desalienta al lavarse o vestirse? ☐ Sí ☐ No ☐ NR (71)

(Si "No," el grado es 4. Si es "Sí," el grado es 5)

(Page 4)

45.

B. Grd. 0__________(0)
1/2__________(1)
1__________(2)
— 2__________(3)
— 3__________(4) (72)

46. ¿Ha tosido más que lo usual durante la semana pasada?

Fecha											
Sí											
No											

(73)

47. ¿Se ha arrancado flemas del pecho o de día o de noche durante la semana pasada?

Sí											
No											

(74)

48. ¿Ha tenido un "resfriado del pecho" durante la semana pasada?

Fecha											
Sí											
No											

(75)

F. LA OPRESION EN EL PECHO

49. ¿Tiene Ud. alguna vez opresión en el pecho o dificultad de respirar?

Sí											
No											

(76)

50. ¿Se le oprime el pecho o se le hace difícil respirar algún día de la semana en particular?

Sí											
No											

(77)

51. Si se contesta "Sí" a 50, pregúntese: ¿ Cuál dia?

D											
L											
Mar.											
Mier.											
J											
V											
S											
Siempre											
A veces											
NR											

(78-85)

52. ¿Se le oprime el pecho o se le hace difícil respirar:

a. ¿ El primer día de vuelta al trabajo después de un día libre o más?

b. ¿ El segundo día de vuelta al trabajo después de un día libre o más?

c. ¿ El último día de trabajo antes de un día libre?

d. No cabe ninguna de las preguntas de arriba.

Fecha											

(86-89)

53. Si se contesta "Sí" a 52, pregúntese:
¿ Siente opresión en el pecho o se le hace difícil respirar:

a. En todas tales ocasiones?
b. Sólo a veces.
c. No cabe.

Fecha										

(90-92)

54. Si se contesta "Sí" a la pregunta 50 o 52, pregúntese: ¿ A qué hora del dia indicado siente opresión en el pecho o dificultad de respirar?

a. Antes de entrar en la desmotadora.
b. Después de entrar en la desmotadora.
c. Después de salir de la desmotadora.
d. No cabe.

Fecha										

(93-96)

55. Si la respuesta a 54 "b" o "c" es afirmativa, pregúntese: ¿ Cuántas horas después de empezar un turno comienza esto?

Horas________
No cabe________ (97-98)

56. Si la respuesta a 54 "b" o "c" es afirmativa, pregúntese: ¿ Cuánto tiempo dura esta opresión o dificultad de respirar?

Horas________
No cabe________ (99-100)

57. (Pregúntese sólo si se contesta "No" a 50)
En el pasado, ha sentido alguna vez opresión en el pecho o dificultad de respirar algún día de la semana en particular?

☐ Sí ☐ No ☐ NR (101)

58. Si se contesta "Sí" a 57, pregúntese:
Cuál día?

D________
L________
Mar.________
Mier.________ (102)
J________ Siempre___
V________ A veces___
S________ NR___

59. (Pregúntese sólo si se contesta "No" a 52)
¿ En el pasado, ha sentido alguna vez opresión en el pecho o dificultad de respirar?

a. El primer día de vuelta al trabajo después de un día libre o más. a.______

b. El segundo día de vuelta al trabajo después de un día libre o más. b.______

c. El último día de trabajo antes de un dia libre. c.______ (103)

d. No cabe nada de lo de arriba. d.______

e. NR. e.______

60. Si se contesta "Sí" a 59, preguntese:
¿ Sentía Ud. opresión en el pecho o dificultad de respirar?

a. En toda (o casi toda) ocasion a____
b. Sólo a veces b____ (104)
c. No cabe c____

61. Si se contesta "Sí" a 50, 52, 57, O 59, pregúntese:
¿ Cuantos años hace que siente opresión en el pecho o dificultad de respirar? ____ Años ☐ NR (105-106)

G. HISTORIA LABORAL

62. ¿ Qué clase de trabajo hace Ud. cuando no desmote el algodón (Especifique)? ____ (107)

Introducción para las preguntas 63 a 69: ¿Ha trabajado Ud. alguna vez en:

63. Una fundición (por tanto como un año)? ☐ Sí ☐ No (108)

64. La minería o elaboración de piedra o metales (por tanto como un año)? ☐ Sí ☐ No (109)

65. En una planta de asbesto (alguna vez)? ☐ Sí ☐ No (110)

66. En una fábrica de textil de algodón, de mezclado de algondon o de aceite de semilla de algodón? ☐ Sí ☐ No (111)

67. En el cosecho de algodón o cereales? ☐ Sí ☐ No (112)

68. En una desmotadora de algodón (sólo para el grupo de control)? ☐ Sí ☐ No (113)

69. En proximidad de otros polvos, emanaciones o humos? Si se contesta "Sí," especifíquese: ☐ Sí ☐ No (114)
Clase de contacto____
Duración de contacto____

70. ¿Cuántos años tenía cuando empezó a trabajar por primera vez en una desmotadora de algodón? (Escríbase su edad exacta)____ (115-116)

71. ¿Cuántos años hace que trabaja en una desmotadora de algodón? (Número total de años)____ (117-118)

72. ¿Cuántos meses por año trabaja ordinariamente en una desmotadora de algodón?____ (Núm. de meses) (119-120)

73. ¿En qué otras regiones del estado o del país ha trabajado (desmotando el algodón)?____ (121-122)

H. OTRAS ENFERMEDADES

74. ¿Tiene Ud. una condición del corazón que requiere los servicios de un médico? ☐ Sí ☐ No (123)

75. Si se contesta "Sí" a 74, especifíquense la condición________________.

la medicacion:________________

No cabe:________________

76. ¿Ha tenido alguna vez asma? ☐ Sí ☐ No (124)

77. Si se contesta "Si" a 76, pregúntese si empezó:
____Antes de los 30 anos
____Despues de los 30 anos
____NR

78. Si se contesta "Sí" a 76, pregúntese: Tenía asma antes de trabajar en una desmotadora de algodón? ☐ Sí ☐ No ☐ NR (125)

79. ¿Le ha dicho alguna vez un medico que Ud. Tenía alguna de las condiciones que siguen?

a. Bronquitis cronica ☐ Sí ☐ No (126)

b. Enfisema ☐ Sí ☐ No (127)

c. Infección fungoso de los pulmones ☐ Sí ☐ No (128)

d. Tisis (tuberculosis) ☐ Sí ☐ No (129)

e. Cualquier condición crónica de los pulmones ☐ Sí ☐ No (130)

Si se contesta "Sí," especifíquese:________________

____

____

I. CONSUMO DE TABACO

80. ¿Ha fumado Ud. alguna vez cigarrillos? ☐ Sí ☐ No (131)

(Si se contesta "Sí" a 80, pregúntese 81. Si "No," omítase lo que no quepa.)

81. ¿Fuma cigarrillos actualmente? ☐ Sí ☐ No ☐ NR (132)

(Si se contesta "Sí" a 81, pregúntese 82 a 84. Si "No," pregúntese 85 a 87.)

82. ¿Aproximadamente cuántos cigarrillos fuma ordinariamente por día? ____ Número ☐ NR (133-134)

83. ¿Inhala (aspira), digo, traga el humo? ☐ Sí ☐ No ☐ NR (135)

84. ¿Cuántos años hace que fuma cigarrillos? ____ Años ☐ NR (136-137)

(Omítase hasta 88)

85. ¿Cuando fumaba, cuántos cigarrillos consumía por dia? ____ Número ☐ NR (138-139)

86. ¿Inhalaba (aspiraba), digo, tragaba el humo?	☐ Sí ☐ No ☐ NR	(140)
87. ¿Aproximadamente cuántos años hacía que fumaba cigarrillos?	____ Años ☐ NR	(141-142)
88. ¿Ha fumado alguna vez puros?	☐ Sí ☐ No	(143)
(Si se centesta "Sí" a 88, pregúntese 89 a 91. Si "No," omítase hasta 92.)		
89. ¿Fuma puros actualmente?	☐ Sí ☐ No ☐ NR	(144)
(Si se contesta "Sí" a 89, pregúntese 90 a 91. Si "No," omítase hasta 92.)		
90. ¿Aprximadamente cuántos puros fuma ordinariamente por día?	____ Número ☐ NR	(145-146)
91. ¿Aproximadamente cuántos años hace que fuma puros?	____ Años ☐ NR	(147-148)
92. ¿Ha fumado alguna vez en pipa?	☐ Sí ☐ No	(149)
(Si se contesta "Sí" a 92, pregúntese 93 a 95. Si "No," terminese la entrevista.)		
93. Fuma en pipa actualmente?	☐ Sí ☐ No ☐ NR	(150)
(Si se contesta "Sí" a 93, preguntese 94 a 95. Si "No," terminese la entrevista.)		
94. ¿Aproximadamente cuántas pipadas de tabaco fuma ordinariamente por día?	____ Número ☐ NR	(151-152)
95. ¿Aproximadamente cuántos años hace que fuma en pipa?	____ Años ☐ NR	(153-154)

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APPENDIX C - SPIROMETRY PREDICTION TABLES FOR NORMAL MALES AND FEMALES

TABLE 1. PREDICTED FVC FOR MALES (KNUDSON. ET AL: AM REV RESPIR DIS. 1976. 113. 587.)

	AGE																								
HT	17	19	21	23	25	27	29	31	33	35	37	39	41	43	45	47	49	51	53	55	57	59	61	63	65
60.0	3.44	3.59	3.75	3.91	3.72	3.66	3.61	3.55	3.49	3.43	3.37	3.32	3.26	3.20	3.14	3.08	3.03	2.97	2.91	2.85	2.79	2.74	2.68	2.62	2.56
60.5	3.50	3.66	3.81	3.97	3.80	3.75	3.69	3.63	3.57	3.51	3.46	3.40	3.34	3.28	3.22	3.17	3.11	3.05	2.99	2.93	2.88	2.82	2.76	2.70	2.64
61.0	3.56	3.72	3.88	4.03	3.89	3.83	3.77	3.71	3.66	3.60	3.54	3.48	3.42	3.37	3.31	3.25	3.19	3.13	3.08	3.02	2.96	2.90	2.84	2.79	2.73
61.5	3.63	3.78	3.94	4.10	3.97	3.91	3.85	3.80	3.74	3.68	3.62	3.56	3.51	3.45	3.39	3.33	3.27	3.22	3.16	3.10	3.04	2.98	2.93	2.87	2.81
62.0	3.69	3.85	4.00	4.16	4.05	3.99	3.94	3.88	3.82	3.76	3.70	3.65	3.59	3.53	3.47	3.41	3.36	3.30	3.24	3.18	3.12	3.07	3.01	2.95	2.89
62.5	3.76	3.91	4.07	4.22	4.13	4.08	4.02	3.96	3.90	3.84	3.79	3.73	3.67	3.61	3.55	3.50	3.44	3.38	3.32	3.26	3.21	3.15	3.09	3.03	2.97
63.0	3.82	3.97	4.13	4.29	4.22	4.16	4.10	4.04	3.99	3.93	3.87	3.81	3.75	3.70	3.64	3.58	3.52	3.46	3.41	3.35	3.29	3.23	3.17	3.12	3.06
63.5	3.88	4.04	4.19	4.35	4.30	4.24	4.18	4.13	4.07	4.01	3.95	3.89	3.84	3.78	3.72	3.66	3.60	3.55	3.49	3.43	3.37	3.31	3.26	3.20	3.14
64.0	3.95	4.10	4.26	4.41	4.38	4.32	4.27	4.21	4.15	4.09	4.03	3.98	3.92	3.86	3.80	3.74	3.69	3.63	3.57	3.51	3.45	3.40	3.34	3.28	3.22
64.5	4.01	4.17	4.32	4.48	4.46	4.41	4.35	4.29	4.23	4.17	4.12	4.06	4.00	3.94	3.88	3.83	3.77	3.71	3.65	3.59	3.54	3.48	3.42	3.36	3.30
65.0	4.07	4.23	4.39	4.54	4.55	4.49	4.43	4.37	4.32	4.26	4.20	4.14	4.08	4.03	3.97	3.91	3.85	3.79	3.74	3.68	3.62	3.56	3.50	3.45	3.39
65.5	4.14	4.29	4.45	4.60	4.63	4.57	4.51	4.46	4.40	4.34	4.28	4.22	4.17	4.11	4.05	3.99	3.93	3.88	3.82	3.76	3.70	3.64	3.59	3.53	3.47
66.0	4.20	4.36	4.51	4.67	4.71	4.65	4.60	4.54	4.48	4.42	4.36	4.31	4.25	4.19	4.13	4.07	4.02	3.96	3.90	3.84	3.78	3.73	3.67	3.61	3.55
66.5	4.26	4.42	4.58	4.73	4.80	4.74	4.68	4.62	4.56	4.51	4.45	4.39	4.33	4.27	4.22	4.16	4.10	4.04	3.98	3.93	3.87	3.81	3.75	3.69	3.64
67.0	4.33	4.48	4.64	4.80	4.88	4.82	4.76	4.70	4.65	4.59	4.53	4.47	4.41	4.36	4.30	4.24	4.18	4.12	4.07	4.01	3.95	3.89	3.83	3.78	3.72
67.5	4.39	4.55	4.70	4.86	4.96	4.90	4.84	4.79	4.73	4.67	4.61	4.55	4.50	4.44	4.38	4.32	4.26	4.21	4.15	4.09	4.03	3.97	3.92	3.86	3.80
68.0	4.45	4.61	4.77	4.92	5.04	4.98	4.93	4.87	4.81	4.75	4.69	4.64	4.58	4.52	4.46	4.40	4.35	4.29	4.23	4.17	4.11	4.06	4.00	3.94	3.88
68.5	4.52	4.67	4.83	4.99	5.13	5.07	5.01	4.95	4.89	4.84	4.78	4.72	4.66	4.60	4.55	4.49	4.43	4.37	4.31	4.26	4.20	4.14	4.08	4.02	3.97
69.0	4.58	4.74	4.89	5.05	5.21	5.15	5.09	5.03	4.98	4.92	4.86	4.80	4.74	4.69	4.63	4.57	4.51	4.45	4.40	4.34	4.28	4.22	4.16	4.11	4.05
69.5	4.64	4.80	4.96	5.11	5.29	5.23	5.17	5.12	5.06	5.00	4.94	4.88	4.83	4.77	4.71	4.65	4.59	4.54	4.48	4.42	4.36	4.30	4.25	4.19	4.13
70.0	4.71	4.86	5.02	5.18	5.37	5.32	5.26	5.20	5.14	5.08	5.02	4.97	4.91	4.85	4.79	4.74	4.68	4.62	4.56	4.50	4.44	4.39	4.33	4.27	4.21
70.5	4.77	4.93	5.08	5.24	5.46	5.40	5.34	5.28	5.22	5.17	5.11	5.05	4.99	4.93	4.88	4.82	4.76	4.70	4.64	4.59	4.53	4.47	4.41	4.35	4.30
71.0	4.83	4.99	5.15	5.30	5.54	5.48	5.42	5.36	5.31	5.25	5.19	5.13	5.07	5.02	4.96	4.90	4.84	4.78	4.73	4.67	4.61	4.55	4.49	4.44	4.38
71.5	4.90	5.05	5.21	5.37	5.62	5.56	5.50	5.45	5.39	5.33	5.27	5.21	5.16	5.10	5.04	4.98	4.92	4.87	4.81	4.75	4.69	4.63	4.58	4.52	4.46
72.0	4.96	5.12	5.27	5.43	5.70	5.65	5.59	5.53	5.47	5.41	5.36	5.30	5.24	5.18	5.12	5.07	5.01	4.95	4.89	4.83	4.78	4.72	4.66	4.60	4.54
72.5	5.03	5.18	5.34	5.49	5.79	5.73	5.67	5.61	5.55	5.50	5.44	5.38	5.32	5.26	5.21	5.15	5.09	5.03	4.97	4.92	4.86	4.80	4.74	4.68	4.63
73.0	5.09	5.24	5.40	5.56	5.87	5.81	5.75	5.69	5.64	5.58	5.52	5.46	5.40	5.35	5.29	5.23	5.17	5.11	5.06	5.00	4.94	4.88	4.82	4.77	4.71
73.5	5.15	5.31	5.46	5.62	5.95	5.89	5.83	5.78	5.72	5.66	5.60	5.54	5.49	5.43	5.37	5.31	5.25	5.20	5.14	5.08	5.02	4.96	4.91	4.85	4.79
74.0	5.22	5.37	5.53	5.68	6.03	5.98	5.92	5.86	5.80	5.74	5.69	5.63	5.57	5.51	5.45	5.40	5.34	5.28	5.22	5.16	5.11	5.05	4.99	4.93	4.87
74.5	5.28	5.44	5.59	5.75	6.12	6.06	6.00	5.94	5.88	5.83	5.77	5.71	5.65	5.59	5.54	5.48	5.42	5.36	5.30	5.25	5.19	5.13	5.07	5.01	4.96
75.0	5.34	5.50	5.65	5.81	6.20	6.14	6.08	6.02	5.97	5.91	5.85	5.79	5.73	5.68	5.62	5.56	5.50	5.44	5.39	5.33	5.27	5.21	5.15	5.10	5.04
75.5	5.41	5.56	5.72	5.87	6.28	6.22	6.17	6.11	6.05	5.99	5.93	5.88	5.82	5.76	5.70	5.64	5.59	5.53	5.47	5.41	5.35	5.30	5.24	5.18	5.12
76.0	5.47	5.63	5.78	5.94	6.36	6.31	6.25	6.19	6.13	6.07	6.02	5.96	5.90	5.84	5.78	5.73	5.67	5.61	5.55	5.49	5.44	5.38	5.32	5.26	5.20
76.5	5.53	5.69	5.85	6.00	6.45	6.39	6.33	6.27	6.21	6.16	6.10	6.04	5.98	5.92	5.87	5.81	5.75	5.69	5.63	5.58	5.52	5.46	5.40	5.34	5.29
77.0	5.60	5.75	5.91	6.06	6.53	6.47	6.41	6.35	6.30	6.24	6.18	6.12	6.06	6.01	5.95	5.89	5.83	5.77	5.72	5.66	5.60	5.54	5.48	5.43	5.37
77.5	5.66	5.82	5.97	6.13	6.61	6.55	6.50	6.44	6.38	6.32	6.26	6.21	6.15	6.09	6.03	5.97	5.92	5.86	5.80	5.74	5.68	5.63	5.57	5.51	5.45
78.0	5.72	5.88	6.04	6.19	6.69	6.64	6.58	6.52	6.46	6.40	6.35	6.29	6.23	6.17	6.11	6.06	6.00	5.94	5.88	5.82	5.77	5.71	5.65	5.59	5.53
78.5	5.79	5.94	6.10	6.26	6.78	6.72	6.66	6.60	6.54	6.49	6.43	6.37	6.31	6.25	6.20	6.14	6.08	6.02	5.96	5.91	5.85	5.79	5.73	5.67	5.62
79.0	5.85	6.01	6.16	6.32	6.86	6.80	6.74	6.68	6.63	6.57	6.51	6.45	6.39	6.34	6.28	6.22	6.16	6.10	6.05	5.99	5.93	5.87	5.81	5.76	5.70
79.5	5.91	6.07	6.23	6.38	6.94	6.88	6.83	6.77	6.71	6.65	6.59	6.54	6.48	6.42	6.36	6.30	6.25	6.19	6.13	6.07	6.01	5.96	5.90	5.84	5.78
80.0	5.98	6.13	6.29	6.45	7.02	6.97	6.91	6.85	6.79	6.73	6.68	6.62	6.56	6.50	6.44	6.39	6.33	6.27	6.21	6.15	6.10	6.04	5.98	5.92	5.86
80.5	6.04	6.20	6.35	6.51	7.11	7.05	6.99	6.93	6.87	6.82	6.76	6.70	6.64	6.58	6.53	6.47	6.41	6.35	6.29	6.24	6.18	6.12	6.06	6.00	5.95
81.0	6.10	6.26	6.42	6.57	7.19	7.13	7.07	7.02	6.96	6.90	6.84	6.78	6.73	6.67	6.61	6.55	6.49	6.44	6.38	6.32	6.26	6.20	6.15	6.09	6.03
81.5	6.17	6.32	6.48	6.64	7.27	7.21	7.16	7.10	7.04	6.98	6.92	6.87	6.81	6.75	6.69	6.63	6.58	6.52	6.46	6.40	6.34	6.29	6.23	6.17	6.11
82.0	6.23	6.39	6.54	6.70	7.35	7.30	7.24	7.18	7.12	7.06	7.01	6.95	6.89	6.83	6.77	6.72	6.66	6.60	6.54	6.48	6.43	6.37	6.31	6.25	6.19
82.5	6.30	6.45	6.61	6.76	7.44	7.38	7.32	7.26	7.20	7.15	7.09	7.03	6.97	6.91	6.86	6.80	6.74	6.68	6.62	6.57	6.51	6.45	6.39	6.33	6.28
83.0	6.36	6.51	6.67	6.83	7.52	7.46	7.40	7.35	7.29	7.23	7.17	7.11	7.06	7.00	6.94	6.88	6.82	6.77	6.71	6.65	6.59	6.53	6.48	6.42	6.36
83.5	6.42	6.58	6.73	6.89	7.60	7.54	7.49	7.43	7.37	7.31	7.25	7.20	7.14	7.08	7.02	6.96	6.91	6.85	6.79	6.73	6.67	6.62	6.56	6.50	6.44
84.0	6.49	6.64	6.80	6.95	7.68	7.63	7.57	7.51	7.45	7.39	7.34	7.28	7.22	7.16	7.10	7.05	6.99	6.93	6.87	6.81	6.76	6.70	6.64	6.58	6.52
84.5	6.55	6.71	6.86	7.02	7.77	7.71	7.65	7.59	7.53	7.48	7.42	7.36	7.30	7.24	7.19	7.13	7.07	7.01	6.95	6.90	6.84	6.78	6.72	6.66	6.61
85.0	6.61	6.77	6.92	7.08	7.85	7.79	7.73	7.68	7.62	7.56	7.50	7.44	7.39	7.33	7.27	7.21	7.15	7.10	7.04	6.98	6.92	6.86	6.81	6.75	6.69

TABLE 2. PREDICTED FEV1 FOR MALES (KNUDSON, ET AL: AM REV RESPIR DIS. 1976, 113, 587.)

	AGE																								
HT	17	19	21	23	25	27	29	31	33	35	37	39	41	43	45	47	49	51	53	55	57	59	61	63	65
60.0	2.97	3.06	3.15	3.24	3.05	2.99	2.94	2.88	2.83	2.78	2.72	2.67	2.61	2.56	2.51	2.45	2.40	2.34	2.29	2.24	2.18	2.13	2.07	2.02	1.97
60.5	3.03	3.12	3.21	3.30	3.11	3.06	3.00	2.95	2.90	2.84	2.79	2.73	2.68	2.63	2.57	2.52	2.46	2.41	2.36	2.30	2.25	2.19	2.14	2.09	2.03
61.0	3.08	3.17	3.26	3.35	3.18	3.12	3.07	3.02	2.96	2.91	2.85	2.80	2.75	2.69	2.64	2.58	2.53	2.48	2.42	2.37	2.31	2.26	2.21	2.15	2.10
61.5	3.14	3.23	3.32	3.41	3.24	3.19	3.14	3.08	3.03	2.97	2.92	2.87	2.81	2.76	2.70	2.65	2.60	2.54	2.49	2.43	2.38	2.33	2.27	2.22	2.16
62.0	3.20	3.29	3.38	3.47	3.31	3.26	3.20	3.15	3.09	3.04	2.99	2.93	2.88	2.82	2.77	2.72	2.66	2.61	2.55	2.50	2.45	2.39	2.34	2.28	2.23
62.5	3.26	3.35	3.44	3.53	3.38	3.32	3.27	3.22	3.16	3.11	3.05	3.00	2.95	2.89	2.84	2.78	2.73	2.68	2.62	2.57	2.51	2.46	2.41	2.35	2.30
63.0	3.32	3.41	3.50	3.59	3.44	3.39	3.34	3.28	3.23	3.17	3.12	3.07	3.01	2.96	2.90	2.85	2.80	2.74	2.69	2.63	2.58	2.53	2.47	2.42	2.36
63.5	3.38	3.47	3.56	3.65	3.51	3.46	3.40	3.35	3.29	3.24	3.19	3.13	3.08	3.02	2.97	2.92	2.86	2.81	2.75	2.70	2.65	2.59	2.54	2.48	2.43
64.0	3.43	3.52	3.61	3.70	3.58	3.52	3.47	3.41	3.36	3.31	3.25	3.20	3.14	3.09	3.04	2.98	2.93	2.87	2.82	2.77	2.71	2.66	2.60	2.55	2.50
64.5	3.49	3.58	3.67	3.76	3.64	3.59	3.53	3.48	3.43	3.37	3.32	3.26	3.21	3.16	3.10	3.05	2.99	2.94	2.89	2.83	2.78	2.72	2.67	2.62	2.56
65.0	3.55	3.64	3.73	3.82	3.71	3.65	3.60	3.55	3.49	3.44	3.38	3.33	3.28	3.22	3.17	3.11	3.06	3.01	2.95	2.90	2.84	2.79	2.74	2.68	2.63
65.5	3.61	3.70	3.79	3.88	3.77	3.72	3.67	3.61	3.56	3.50	3.45	3.40	3.34	3.29	3.23	3.18	3.13	3.07	3.02	2.96	2.91	2.86	2.80	2.75	2.69
66.0	3.67	3.76	3.85	3.94	3.84	3.79	3.73	3.68	3.62	3.57	3.52	3.46	3.41	3.35	3.30	3.25	3.19	3.14	3.08	3.03	2.98	2.92	2.87	2.81	2.76
66.5	3.73	3.82	3.91	4.00	3.91	3.85	3.80	3.74	3.69	3.64	3.58	3.53	3.47	3.42	3.37	3.31	3.26	3.20	3.15	3.10	3.04	2.99	2.93	2.88	2.83
67.0	3.79	3.88	3.97	4.06	3.97	3.92	3.86	3.81	3.76	3.70	3.65	3.59	3.54	3.49	3.43	3.38	3.32	3.27	3.22	3.16	3.11	3.05	3.00	2.95	2.89
67.5	3.84	3.93	4.02	4.11	4.04	3.98	3.93	3.88	3.82	3.77	3.71	3.66	3.61	3.55	3.50	3.44	3.39	3.34	3.28	3.23	3.17	3.12	3.07	3.01	2.96
68.0	3.90	3.99	4.08	4.17	4.10	4.05	4.00	3.94	3.89	3.83	3.78	3.73	3.67	3.62	3.56	3.51	3.46	3.40	3.35	3.29	3.24	3.19	3.13	3.08	3.02
68.5	3.96	4.05	4.14	4.23	4.17	4.12	4.06	4.01	3.95	3.90	3.85	3.79	3.74	3.68	3.63	3.58	3.52	3.47	3.41	3.36	3.31	3.25	3.20	3.14	3.09
69.0	4.02	4.11	4.20	4.29	4.24	4.18	4.13	4.07	4.02	3.97	3.91	3.86	3.80	3.75	3.70	3.64	3.59	3.53	3.48	3.43	3.37	3.32	3.26	3.21	3.16
69.5	4.08	4.17	4.26	4.35	4.30	4.25	4.19	4.14	4.09	4.03	3.98	3.92	3.87	3.82	3.76	3.71	3.65	3.60	3.55	3.49	3.44	3.38	3.33	3.28	3.22
70.0	4.14	4.23	4.32	4.41	4.37	4.31	4.26	4.21	4.15	4.10	4.04	3.99	3.94	3.88	3.83	3.77	3.72	3.67	3.61	3.56	3.50	3.45	3.40	3.34	3.29
70.5	4.19	4.28	4.37	4.46	4.43	4.38	4.33	4.27	4.22	4.16	4.11	4.06	4.00	3.95	3.89	3.84	3.79	3.73	3.68	3.62	3.57	3.52	3.46	3.41	3.35
71.0	4.25	4.34	4.43	4.52	4.50	4.45	4.39	4.34	4.28	4.23	4.18	4.12	4.07	4.01	3.96	3.91	3.85	3.80	3.74	3.69	3.64	3.58	3.53	3.47	3.42
71.5	4.31	4.40	4.49	4.58	4.57	4.51	4.46	4.40	4.35	4.30	4.24	4.19	4.13	4.08	4.03	3.97	3.92	3.86	3.81	3.76	3.70	3.65	3.59	3.54	3.49
72.0	4.37	4.46	4.55	4.64	4.63	4.58	4.52	4.47	4.42	4.36	4.31	4.25	4.20	4.15	4.09	4.04	3.98	3.93	3.88	3.82	3.77	3.71	3.66	3.61	3.55
72.5	4.43	4.52	4.61	4.70	4.70	4.64	4.59	4.54	4.48	4.43	4.37	4.32	4.27	4.21	4.16	4.10	4.05	4.00	3.94	3.89	3.83	3.78	3.73	3.67	3.62
73.0	4.49	4.58	4.67	4.76	4.76	4.71	4.66	4.60	4.55	4.49	4.44	4.39	4.33	4.28	4.22	4.17	4.12	4.06	4.01	3.95	3.90	3.85	3.79	3.74	3.68
73.5	4.54	4.63	4.72	4.81	4.83	4.78	4.72	4.67	4.61	4.56	4.51	4.45	4.40	4.34	4.29	4.24	4.18	4.13	4.07	4.02	3.97	3.91	3.86	3.80	3.75
74.0	4.60	4.69	4.78	4.87	4.90	4.84	4.79	4.73	4.68	4.63	4.57	4.52	4.46	4.41	4.36	4.30	4.25	4.19	4.14	4.09	4.03	3.98	3.92	3.87	3.82
74.5	4.66	4.75	4.84	4.93	4.96	4.91	4.85	4.80	4.75	4.69	4.64	4.58	4.53	4.48	4.42	4.37	4.31	4.26	4.21	4.15	4.10	4.04	3.99	3.94	3.88
75.0	4.72	4.81	4.90	4.99	5.03	4.97	4.92	4.87	4.81	4.76	4.70	4.65	4.60	4.54	4.49	4.43	4.38	4.33	4.27	4.22	4.16	4.11	4.06	4.00	3.95
75.5	4.78	4.87	4.96	5.05	5.09	5.04	4.99	4.93	4.88	4.82	4.77	4.72	4.66	4.61	4.55	4.50	4.45	4.39	4.34	4.28	4.23	4.18	4.12	4.07	4.01
76.0	4.84	4.93	5.02	5.11	5.16	5.11	5.05	5.00	4.94	4.89	4.84	4.78	4.73	4.67	4.62	4.57	4.51	4.46	4.40	4.35	4.30	4.24	4.19	4.13	4.08
76.5	4.90	4.99	5.08	5.17	5.23	5.17	5.12	5.06	5.01	4.96	4.90	4.85	4.79	4.74	4.69	4.63	4.58	4.52	4.47	4.42	4.36	4.31	4.25	4.20	4.15
77.0	4.95	5.04	5.13	5.22	5.29	5.24	5.18	5.13	5.08	5.02	4.97	4.91	4.86	4.81	4.75	4.70	4.64	4.59	4.54	4.48	4.43	4.37	4.32	4.27	4.21
77.5	5.01	5.10	5.19	5.28	5.36	5.30	5.25	5.20	5.14	5.09	5.03	4.98	4.93	4.87	4.82	4.76	4.71	4.66	4.60	4.55	4.49	4.44	4.39	4.33	4.28
78.0	5.07	5.16	5.25	5.34	5.42	5.37	5.32	5.26	5.21	5.15	5.10	5.05	4.99	4.94	4.88	4.83	4.78	4.72	4.67	4.61	4.56	4.51	4.45	4.40	4.34
78.5	5.13	5.22	5.31	5.40	5.49	5.44	5.38	5.33	5.27	5.22	5.17	5.11	5.06	5.00	4.95	4.90	4.84	4.79	4.73	4.68	4.63	4.57	4.52	4.46	4.41
79.0	5.19	5.28	5.37	5.46	5.56	5.50	5.45	5.39	5.34	5.29	5.23	5.18	5.12	5.07	5.02	4.96	4.91	4.85	4.80	4.75	4.69	4.64	4.58	4.53	4.48
79.5	5.25	5.34	5.43	5.52	5.62	5.57	5.51	5.46	5.41	5.35	5.30	5.24	5.19	5.14	5.08	5.03	4.97	4.92	4.87	4.81	4.76	4.70	4.65	4.60	4.54
80.0	5.30	5.39	5.48	5.57	5.69	5.63	5.58	5.53	5.47	5.42	5.36	5.31	5.26	5.20	5.15	5.09	5.04	4.99	4.93	4.88	4.82	4.77	4.72	4.66	4.61
80.5	5.36	5.45	5.54	5.63	5.75	5.70	5.65	5.59	5.54	5.48	5.43	5.38	5.32	5.27	5.21	5.16	5.11	5.05	5.00	4.94	4.89	4.84	4.78	4.73	4.67
81.0	5.42	5.51	5.60	5.69	5.82	5.77	5.71	5.66	5.60	5.55	5.50	5.44	5.39	5.33	5.28	5.23	5.17	5.12	5.06	5.01	4.96	4.90	4.85	4.79	4.74
81.5	5.48	5.57	5.66	5.75	5.89	5.83	5.78	5.72	5.67	5.62	5.56	5.51	5.45	5.40	5.35	5.29	5.24	5.18	5.13	5.08	5.02	4.97	4.91	4.86	4.81
82.0	5.54	5.63	5.72	5.81	5.95	5.90	5.84	5.79	5.74	5.68	5.63	5.57	5.52	5.47	5.41	5.36	5.30	5.25	5.20	5.14	5.09	5.03	4.98	4.93	4.87
82.5	5.60	5.69	5.78	5.87	6.02	5.96	5.91	5.86	5.80	5.75	5.69	5.64	5.59	5.53	5.48	5.42	5.37	5.32	5.26	5.21	5.15	5.10	5.05	4.99	4.94
83.0	5.65	5.74	5.83	5.92	6.08	6.03	5.98	5.92	5.87	5.81	5.76	5.71	5.65	5.60	5.54	5.49	5.44	5.38	5.33	5.27	5.22	5.17	5.11	5.06	5.00
83.5	5.71	5.80	5.89	5.98	6.15	6.10	6.04	5.99	5.93	5.88	5.83	5.77	5.72	5.66	5.61	5.56	5.50	5.45	5.39	5.34	5.29	5.23	5.18	5.12	5.07
84.0	5.77	5.86	5.95	6.04	6.22	6.16	6.11	6.05	6.00	5.95	5.89	5.84	5.78	5.73	5.68	5.62	5.57	5.51	5.46	5.41	5.35	5.30	5.24	5.19	5.14
84.5	5.83	5.92	6.01	6.10	6.28	6.23	6.17	6.12	6.07	6.01	5.96	5.90	5.85	5.80	5.74	5.69	5.63	5.58	5.53	5.47	5.42	5.36	5.31	5.26	5.20
85.0	5.89	5.98	6.07	6.16	6.35	6.29	6.24	6.19	6.13	6.08	6.02	5.97	5.92	5.86	5.81	5.75	5.70	5.65	5.59	5.54	5.48	5.43	5.38	5.32	5.27

TABLE 3. PREDICTED FVC FOR FEMALES (KNUDSON, ET AL: AM REV RESPIR DIS, 1976, 113, 587.)

	AGE																								
HT	17	19	21	23	25	27	29	31	33	35	37	39	41	43	45	47	49	51	53	55	57	59	61	63	65
52.0	2.45	2.64	2.65	2.61	2.56	2.52	2.47	2.43	2.39	2.34	2.30	2.25	2.21	2.17	2.12	2.08	2.03	1.99	1.95	1.90	1.86	1.81	1.77	1.73	1.68
52.5	2.50	2.68	2.70	2.65	2.61	2.57	2.52	2.48	2.43	2.39	2.35	2.30	2.26	2.21	2.17	2.13	2.08	2.04	1.99	1.95	1.91	1.86	1.82	1.77	1.73
53.0	2.54	2.72	2.74	2.70	2.66	2.61	2.57	2.52	2.48	2.44	2.39	2.35	2.30	2.26	2.22	2.17	2.13	2.08	2.04	2.00	1.95	1.91	1.86	1.82	1.78
53.5	2.58	2.76	2.79	2.75	2.70	2.66	2.62	2.57	2.53	2.48	2.44	2.40	2.35	2.31	2.26	2.22	2.18	2.13	2.09	2.04	2.00	1.96	1.91	1.87	1.82
54.0	2.62	2.81	2.84	2.79	2.75	2.71	2.66	2.62	2.57	2.53	2.49	2.44	2.40	2.35	2.31	2.27	2.22	2.18	2.13	2.09	2.05	2.00	1.96	1.91	1.87
54.5	2.66	2.85	2.89	2.84	2.80	2.75	2.71	2.67	2.62	2.58	2.53	2.49	2.45	2.40	2.36	2.31	2.27	2.23	2.18	2.14	2.09	2.05	2.01	1.96	1.92
55.0	2.71	2.89	2.93	2.89	2.84	2.80	2.76	2.71	2.67	2.62	2.58	2.54	2.49	2.45	2.40	2.36	2.32	2.27	2.23	2.18	2.14	2.10	2.05	2.01	1.96
55.5	2.75	2.93	2.98	2.94	2.89	2.85	2.80	2.76	2.72	2.67	2.63	2.58	2.54	2.50	2.45	2.41	2.36	2.32	2.28	2.23	2.19	2.14	2.10	2.06	2.01
56.0	2.79	2.97	3.03	2.98	2.94	2.89	2.85	2.81	2.76	2.72	2.67	2.63	2.59	2.54	2.50	2.45	2.41	2.37	2.32	2.28	2.23	2.19	2.15	2.10	2.06
56.5	2.83	3.01	3.07	3.03	2.99	2.94	2.90	2.85	2.81	2.77	2.72	2.68	2.63	2.59	2.55	2.50	2.46	2.41	2.37	2.33	2.28	2.24	2.19	2.15	2.11
57.0	2.87	3.06	3.12	3.08	3.03	2.99	2.94	2.90	2.86	2.81	2.77	2.72	2.68	2.64	2.59	2.55	2.50	2.46	2.42	2.37	2.33	2.28	2.24	2.20	2.15
57.5	2.91	3.10	3.17	3.12	3.08	3.04	2.99	2.95	2.90	2.86	2.82	2.77	2.73	2.68	2.64	2.60	2.55	2.51	2.46	2.42	2.38	2.33	2.29	2.24	2.20
58.0	2.96	3.14	3.21	3.17	3.13	3.08	3.04	2.99	2.95	2.91	2.86	2.82	2.77	2.73	2.69	2.64	2.60	2.55	2.51	2.47	2.42	2.38	2.33	2.29	2.25
58.5	3.00	3.18	3.26	3.22	3.17	3.13	3.09	3.04	3.00	2.95	2.91	2.87	2.82	2.78	2.73	2.69	2.65	2.60	2.56	2.51	2.47	2.43	2.38	2.34	2.29
59.0	3.04	3.22	3.31	3.26	3.22	3.18	3.13	3.09	3.04	3.00	2.96	2.91	2.87	2.82	2.78	2.74	2.69	2.65	2.60	2.56	2.52	2.47	2.43	2.38	2.34
59.5	3.08	3.27	3.36	3.31	3.27	3.22	3.18	3.14	3.09	3.05	3.00	2.96	2.92	2.87	2.83	2.78	2.74	2.70	2.65	2.61	2.56	2.52	2.48	2.43	2.39
60.0	3.12	3.31	3.40	3.36	3.31	3.27	3.23	3.18	3.14	3.09	3.05	3.01	2.96	2.92	2.87	2.83	2.79	2.74	2.70	2.65	2.61	2.57	2.52	2.48	2.43
60.5	3.17	3.35	3.45	3.41	3.36	3.32	3.27	3.23	3.19	3.14	3.10	3.05	3.01	2.97	2.92	2.88	2.83	2.79	2.75	2.70	2.66	2.61	2.57	2.53	2.48
61.0	3.21	3.39	3.50	3.45	3.41	3.36	3.32	3.28	3.23	3.19	3.14	3.10	3.06	3.01	2.97	2.92	2.88	2.84	2.79	2.75	2.70	2.66	2.62	2.57	2.53
61.5	3.25	3.43	3.54	3.50	3.46	3.41	3.37	3.32	3.28	3.24	3.19	3.15	3.10	3.06	3.02	2.97	2.93	2.88	2.84	2.80	2.75	2.71	2.66	2.62	2.58
62.0	3.29	3.48	3.59	3.55	3.50	3.46	3.41	3.37	3.33	3.28	3.24	3.19	3.15	3.11	3.06	3.02	2.97	2.93	2.89	2.84	2.80	2.75	2.71	2.67	2.62
62.5	3.33	3.52	3.64	3.59	3.55	3.51	3.46	3.42	3.37	3.33	3.29	3.24	3.20	3.15	3.11	3.07	3.02	2.98	2.93	2.89	2.85	2.80	2.76	2.71	2.67
63.0	3.38	3.56	3.68	3.64	3.60	3.55	3.51	3.46	3.42	3.38	3.33	3.29	3.24	3.20	3.16	3.11	3.07	3.02	2.98	2.94	2.89	2.85	2.80	2.76	2.72
63.5	3.42	3.60	3.73	3.69	3.64	3.60	3.56	3.51	3.47	3.42	3.38	3.34	3.29	3.25	3.20	3.16	3.12	3.07	3.03	2.98	2.94	2.90	2.85	2.81	2.76
64.0	3.46	3.64	3.78	3.73	3.69	3.65	3.60	3.56	3.51	3.47	3.43	3.38	3.34	3.29	3.25	3.21	3.16	3.12	3.07	3.03	2.99	2.94	2.90	2.85	2.81
64.5	3.50	3.69	3.83	3.78	3.74	3.69	3.65	3.61	3.56	3.52	3.47	3.43	3.39	3.34	3.30	3.25	3.21	3.17	3.12	3.08	3.03	2.99	2.95	2.90	2.86
65.0	3.54	3.73	3.87	3.83	3.78	3.74	3.70	3.65	3.61	3.56	3.52	3.48	3.43	3.39	3.34	3.30	3.26	3.21	3.17	3.12	3.08	3.04	2.99	2.95	2.90
65.5	3.59	3.77	3.92	3.88	3.83	3.79	3.74	3.70	3.66	3.61	3.57	3.52	3.48	3.44	3.39	3.35	3.30	3.26	3.22	3.17	3.13	3.08	3.04	3.00	2.95
66.0	3.63	3.81	3.97	3.92	3.88	3.83	3.79	3.75	3.70	3.66	3.61	3.57	3.53	3.48	3.44	3.39	3.35	3.31	3.26	3.22	3.17	3.13	3.09	3.04	3.00
66.5	3.67	3.85	4.01	3.97	3.93	3.88	3.84	3.79	3.75	3.71	3.66	3.62	3.57	3.53	3.49	3.44	3.40	3.35	3.31	3.27	3.22	3.18	3.13	3.09	3.05
67.0	3.71	3.89	4.06	4.02	3.97	3.93	3.88	3.84	3.80	3.75	3.71	3.66	3.62	3.58	3.53	3.49	3.44	3.40	3.36	3.31	3.27	3.22	3.18	3.14	3.09
67.5	3.75	3.94	4.11	4.06	4.02	3.98	3.93	3.89	3.84	3.80	3.76	3.71	3.67	3.62	3.58	3.54	3.49	3.45	3.40	3.36	3.32	3.27	3.23	3.18	3.14
68.0	3.79	3.98	4.15	4.11	4.07	4.02	3.98	3.93	3.89	3.85	3.80	3.76	3.71	3.67	3.63	3.58	3.54	3.49	3.45	3.41	3.36	3.32	3.27	3.23	3.19
68.5	3.84	4.02	4.20	4.16	4.11	4.07	4.03	3.98	3.94	3.89	3.85	3.81	3.76	3.72	3.67	3.63	3.59	3.54	3.50	3.45	3.41	3.37	3.32	3.28	3.23
69.0	3.88	4.06	4.25	4.20	4.16	4.12	4.07	4.03	3.98	3.94	3.90	3.85	3.81	3.76	3.72	3.68	3.63	3.59	3.54	3.50	3.46	3.41	3.37	3.32	3.28
69.5	3.92	4.10	4.30	4.25	4.21	4.16	4.12	4.08	4.03	3.99	3.94	3.90	3.86	3.81	3.77	3.72	3.68	3.64	3.59	3.55	3.50	3.46	3.42	3.37	3.33
70.0	3.96	4.15	4.34	4.30	4.25	4.21	4.17	4.12	4.08	4.03	3.99	3.95	3.90	3.86	3.81	3.77	3.73	3.68	3.64	3.59	3.55	3.51	3.46	3.42	3.37
70.5	4.00	4.19	4.39	4.35	4.30	4.26	4.21	4.17	4.13	4.08	4.04	3.99	3.95	3.91	3.86	3.82	3.77	3.73	3.69	3.64	3.60	3.55	3.51	3.47	3.42
71.0	4.05	4.23	4.44	4.39	4.35	4.30	4.26	4.22	4.17	4.13	4.08	4.04	4.00	3.95	3.91	3.86	3.82	3.78	3.73	3.69	3.64	3.60	3.56	3.51	3.47
71.5	4.09	4.27	4.48	4.44	4.40	4.35	4.31	4.26	4.22	4.18	4.13	4.09	4.04	4.00	3.96	3.91	3.87	3.82	3.78	3.74	3.69	3.65	3.60	3.56	3.52
72.0	4.13	4.31	4.53	4.49	4.44	4.40	4.35	4.31	4.27	4.22	4.18	4.13	4.09	4.05	4.00	3.96	3.91	3.87	3.83	3.78	3.74	3.69	3.65	3.61	3.56
72.5	4.17	4.36	4.58	4.53	4.49	4.45	4.40	4.36	4.31	4.27	4.23	4.18	4.14	4.09	4.05	4.01	3.96	3.92	3.87	3.83	3.79	3.74	3.70	3.65	3.61
73.0	4.21	4.40	4.62	4.58	4.54	4.49	4.45	4.40	4.36	4.32	4.27	4.23	4.18	4.14	4.10	4.05	4.01	3.96	3.92	3.88	3.83	3.79	3.74	3.70	3.66
73.5	4.26	4.44	4.67	4.63	4.58	4.54	4.50	4.45	4.41	4.36	4.32	4.28	4.23	4.19	4.14	4.10	4.06	4.01	3.97	3.92	3.88	3.84	3.79	3.75	3.70
74.0	4.30	4.48	4.72	4.67	4.63	4.59	4.54	4.50	4.45	4.41	4.37	4.32	4.28	4.23	4.19	4.15	4.10	4.06	4.01	3.97	3.93	3.88	3.84	3.79	3.75
74.5	4.34	4.52	4.77	4.72	4.68	4.63	4.59	4.55	4.50	4.46	4.41	4.37	4.33	4.28	4.24	4.19	4.15	4.11	4.06	4.02	3.97	3.93	3.89	3.84	3.80
75.0	4.38	4.57	4.81	4.77	4.72	4.68	4.64	4.59	4.55	4.50	4.46	4.42	4.37	4.33	4.28	4.24	4.20	4.15	4.11	4.06	4.02	3.98	3.93	3.89	3.84
75.5	4.42	4.61	4.86	4.82	4.77	4.73	4.68	4.64	4.60	4.55	4.51	4.46	4.42	4.38	4.33	4.29	4.24	4.20	4.16	4.11	4.07	4.02	3.98	3.94	3.89
76.0	4.47	4.65	4.91	4.86	4.82	4.77	4.73	4.69	4.64	4.60	4.55	4.51	4.47	4.42	4.38	4.33	4.29	4.25	4.20	4.16	4.11	4.07	4.03	3.98	3.94
76.5	4.51	4.69	4.95	4.91	4.87	4.82	4.78	4.73	4.69	4.65	4.60	4.56	4.51	4.47	4.42	4.38	4.34	4.29	4.25	4.21	4.16	4.12	4.07	4.03	3.99
77.0	4.55	4.73	5.00	4.96	4.91	4.87	4.82	4.78	4.74	4.69	4.65	4.60	4.56	4.52	4.47	4.43	4.38	4.34	4.30	4.25	4.21	4.16	4.12	4.08	4.03

TABLE 4. PREDICTED FEV1 FOR FEMALES (KNUDSON, ET AL: AM REV RESPIR DIS, 1976, 113, 587.)

AGE

HT	17	19	21	23	25	27	29	31	33	35	37	39	41	43	45	47	49	51	53	55	57	59	61	63	65
52.0	2.31	2.48	2.33	2.29	2.25	2.21	2.16	2.12	2.08	2.04	2.00	1.95	1.91	1.87	1.83	1.79	1.74	1.70	1.66	1.62	1.58	1.53	1.49	1.45	1.41
52.5	2.34	2.51	2.37	2.32	2.28	2.24	2.20	2.16	2.11	2.07	2.03	1.99	1.95	1.90	1.86	1.82	1.78	1.74	1.69	1.65	1.61	1.57	1.53	1.48	1.44
53.0	2.38	2.55	2.40	2.36	2.32	2.27	2.23	2.19	2.15	2.11	2.06	2.02	1.98	1.94	1.90	1.85	1.81	1.77	1.73	1.69	1.64	1.60	1.56	1.52	1.48
53.5	2.41	2.58	2.43	2.39	2.35	2.31	2.27	2.22	2.18	2.14	2.10	2.06	2.01	1.97	1.93	1.89	1.85	1.80	1.76	1.72	1.68	1.64	1.59	1.55	1.51
54.0	2.45	2.62	2.47	2.43	2.38	2.34	2.30	2.26	2.22	2.17	2.13	2.09	2.05	2.01	1.96	1.92	1.88	1.84	1.80	1.75	1.71	1.67	1.63	1.59	1.54
54.5	2.48	2.65	2.50	2.46	2.42	2.38	2.33	2.29	2.25	2.21	2.17	2.12	2.08	2.04	2.00	1.96	1.91	1.87	1.83	1.79	1.75	1.70	1.66	1.62	1.58
55.0	2.51	2.68	2.54	2.49	2.45	2.41	2.37	2.33	2.28	2.24	2.20	2.16	2.12	2.07	2.03	1.99	1.95	1.91	1.86	1.82	1.78	1.74	1.70	1.65	1.61
55.5	2.55	2.72	2.57	2.53	2.49	2.45	2.40	2.36	2.32	2.28	2.24	2.19	2.15	2.11	2.07	2.03	1.98	1.94	1.90	1.86	1.82	1.77	1.73	1.69	1.65
56.0	2.58	2.75	2.61	2.56	2.52	2.48	2.44	2.40	2.35	2.31	2.27	2.23	2.19	2.14	2.10	2.06	2.02	1.98	1.93	1.89	1.85	1.81	1.77	1.72	1.68
56.5	2.62	2.79	2.64	2.60	2.56	2.51	2.47	2.43	2.39	2.35	2.30	2.26	2.22	2.18	2.14	2.09	2.05	2.01	1.97	1.93	1.88	1.84	1.80	1.76	1.72
57.0	2.65	2.02	2.67	2.63	2.59	2.55	2.51	2.46	2.42	2.38	2.34	2.30	2.25	2.21	2.17	2.13	2.09	2.04	2.00	1.96	1.92	1.88	1.83	1.79	1.75
57.5	2.69	2.86	2.71	2.67	2.62	2.58	2.54	2.50	2.46	2.41	2.37	2.33	2.29	2.25	2.20	2.16	2.12	2.08	2.04	1.99	1.95	1.91	1.87	1.83	1.78
58.0	2.72	2.89	2.74	2.70	2.66	2.62	2.57	2.53	2.49	2.45	2.41	2.36	2.32	2.28	2.24	2.20	2.15	2.11	2.07	2.03	1.99	1.94	1.90	1.86	1.82
58.5	2.75	2.92	2.78	2.73	2.69	2.65	2.61	2.57	2.52	2.48	2.44	2.40	2.36	2.31	2.27	2.23	2.19	2.15	2.10	2.06	2.02	1.98	1.94	1.89	1.85
59.0	2.79	2.96	2.81	2.77	2.73	2.69	2.64	2.60	2.56	2.52	2.48	2.43	2.39	2.35	2.31	2.27	2.22	2.18	2.14	2.10	2.06	2.01	1.97	1.93	1.89
59.5	2.82	2.99	2.85	2.80	2.76	2.72	2.68	2.64	2.59	2.55	2.51	2.47	2.43	2.38	2.34	2.30	2.26	2.22	2.17	2.13	2.09	2.05	2.01	1.96	1.92
60.0	2.86	3.03	2.88	2.84	2.80	2.75	2.71	2.67	2.63	2.59	2.54	2.50	2.46	2.42	2.38	2.33	2.29	2.25	2.21	2.17	2.12	2.08	2.04	2.00	1.96
60.5	2.89	3.06	2.91	2.87	2.83	2.79	2.75	2.70	2.66	2.62	2.58	2.54	2.49	2.45	2.41	2.37	2.33	2.28	2.24	2.20	2.16	2.12	2.07	2.03	1.99
61.0	2.93	3.10	2.95	2.91	2.86	2.82	2.78	2.74	2.70	2.65	2.61	2.57	2.53	2.49	2.44	2.40	2.36	2.32	2.28	2.23	2.19	2.15	2.11	2.07	2.02
61.5	2.96	3.13	2.98	2.94	2.90	2.86	2.81	2.77	2.73	2.69	2.65	2.60	2.56	2.52	2.48	2.44	2.39	2.35	2.31	2.27	2.23	2.18	2.14	2.10	2.06
62.0	2.99	3.16	3.02	2.97	2.93	2.89	2.85	2.81	2.76	2.72	2.68	2.64	2.60	2.55	2.51	2.47	2.43	2.39	2.34	2.30	2.26	2.22	2.18	2.13	2.09
62.5	3.03	3.20	3.05	3.01	2.97	2.93	2.88	2.84	2.80	2.76	2.72	2.67	2.63	2.59	2.55	2.51	2.46	2.42	2.38	2.34	2.30	2.25	2.21	2.17	2.13
63.0	3.06	3.23	3.09	3.04	3.00	2.96	2.92	2.88	2.83	2.79	2.75	2.71	2.67	2.62	2.58	2.54	2.50	2.46	2.41	2.37	2.33	2.29	2.25	2.20	2.16
63.5	3.10	3.27	3.12	3.08	3.04	2.99	2.95	2.91	2.87	2.83	2.78	2.74	2.70	2.66	2.62	2.57	2.53	2.49	2.45	2.41	2.36	2.32	2.28	2.24	2.20
64.0	3.13	3.30	3.15	3.11	3.07	3.03	2.99	2.94	2.90	2.86	2.82	2.78	2.73	2.69	2.65	2.61	2.57	2.52	2.48	2.44	2.40	2.36	2.31	2.27	2.23
64.5	3.17	3.34	3.19	3.15	3.10	3.06	3.02	2.98	2.94	2.89	2.85	2.81	2.77	2.73	2.68	2.64	2.60	2.56	2.52	2.47	2.43	2.39	2.35	2.31	2.26
65.0	3.20	3.37	3.22	3.18	3.14	3.10	3.05	3.01	2.97	2.93	2.89	2.84	2.80	2.76	2.72	2.68	2.63	2.59	2.55	2.51	2.47	2.42	2.38	2.34	2.30
65.5	3.23	3.40	3.26	3.21	3.17	3.13	3.09	3.05	3.00	2.96	2.92	2.88	2.84	2.79	2.75	2.71	2.67	2.63	2.58	2.54	2.50	2.46	2.42	2.37	2.33
66.0	3.27	3.44	3.29	3.25	3.21	3.17	3.12	3.08	3.04	3.00	2.96	2.91	2.87	2.83	2.79	2.75	2.70	2.66	2.62	2.58	2.54	2.49	2.45	2.41	2.37
66.5	3.30	3.47	3.33	3.28	3.24	3.20	3.16	3.12	3.07	3.03	2.99	2.95	2.91	2.86	2.82	2.78	2.74	2.70	2.65	2.61	2.57	2.53	2.49	2.44	2.40
67.0	3.34	3.51	3.36	3.32	3.28	3.23	3.19	3.15	3.11	3.07	3.02	2.98	2.94	2.90	2.86	2.81	2.77	2.73	2.69	2.65	2.60	2.56	2.52	2.48	2.44
67.5	3.37	3.54	3.39	3.35	3.31	3.27	3.23	3.18	3.14	3.10	3.06	3.02	2.97	2.93	2.89	2.85	2.81	2.76	2.72	2.68	2.64	2.60	2.55	2.51	2.47
68.0	3.41	3.58	3.43	3.39	3.34	3.30	3.26	3.22	3.18	3.13	3.09	3.05	3.01	2.97	2.92	2.88	2.84	2.80	2.76	2.71	2.67	2.63	2.59	2.55	2.50
68.5	3.44	3.61	3.46	3.42	3.38	3.34	3.29	3.25	3.21	3.17	3.13	3.08	3.04	3.00	2.96	2.92	2.87	2.83	2.79	2.75	2.71	2.66	2.62	2.58	2.54
69.0	3.47	3.64	3.50	3.46	3.41	3.37	3.33	3.29	3.25	3.20	3.16	3.12	3.08	3.04	2.99	2.95	2.91	2.87	2.83	2.78	2.74	2.70	2.66	2.62	2.57
69.5	3.51	3.68	3.53	3.49	3.45	3.41	3.36	3.32	3.28	3.24	3.20	3.15	3.11	3.07	3.03	2.99	2.94	2.90	2.86	2.82	2.78	2.73	2.69	2.65	2.61
70.0	3.54	3.71	3.57	3.52	3.48	3.44	3.40	3.36	3.31	3.27	3.23	3.19	3.15	3.10	3.06	3.02	2.98	2.94	2.89	2.85	2.81	2.77	2.73	2.68	2.64
70.5	3.58	3.75	3.60	3.56	3.52	3.47	3.43	3.39	3.35	3.31	3.26	3.22	3.18	3.14	3.10	3.05	3.01	2.97	2.93	2.89	2.84	2.80	2.76	2.72	2.68
71.0	3.61	3.78	3.63	3.59	3.55	3.51	3.47	3.42	3.38	3.34	3.30	3.26	3.21	3.17	3.13	3.09	3.05	3.00	2.96	2.92	2.88	2.84	2.79	2.75	2.71
71.5	3.65	3.82	3.67	3.63	3.58	3.54	3.50	3.46	3.42	3.37	3.33	3.29	3.25	3.21	3.16	3.12	3.08	3.04	3.00	2.95	2.91	2.87	2.83	2.79	2.74
72.0	3.68	3.85	3.70	3.66	3.62	3.58	3.53	3.49	3.45	3.41	3.37	3.32	3.28	3.24	3.20	3.16	3.11	3.07	3.03	2.99	2.95	2.90	2.86	2.82	2.78
72.5	3.71	3.88	3.74	3.70	3.65	3.61	3.57	3.53	3.49	3.44	3.40	3.36	3.32	3.28	3.23	3.19	3.15	3.11	3.07	3.02	2.98	2.94	2.90	2.86	2.81
73.0	3.75	3.92	3.77	3.73	3.69	3.65	3.60	3.56	3.52	3.48	3.44	3.39	3.35	3.31	3.27	3.23	3.18	3.14	3.10	3.06	3.02	2.97	2.93	2.89	2.85
73.5	3.78	3.95	3.81	3.76	3.72	3.68	3.64	3.60	3.55	3.51	3.47	3.43	3.39	3.34	3.30	3.26	3.22	3.18	3.13	3.09	3.05	3.01	2.97	2.92	2.88
74.0	3.82	3.99	3.84	3.80	3.76	3.71	3.67	3.63	3.59	3.55	3.50	3.46	3.42	3.38	3.34	3.29	3.25	3.21	3.17	3.13	3.08	3.04	3.00	2.96	2.92
74.5	3.85	4.02	3.87	3.83	3.79	3.75	3.71	3.66	3.62	3.58	3.54	3.50	3.45	3.41	3.37	3.33	3.29	3.24	3.20	3.16	3.12	3.08	3.03	2.99	2.95
75.0	3.89	4.06	3.91	3.87	3.82	3.78	3.74	3.70	3.66	3.61	3.57	3.53	3.49	3.45	3.40	3.36	3.32	3.28	3.24	3.19	3.15	3.11	3.07	3.03	2.98
75.5	3.92	4.09	3.94	3.90	3.86	3.82	3.77	3.73	3.69	3.65	3.61	3.56	3.52	3.48	3.44	3.40	3.35	3.31	3.27	3.23	3.19	3.14	3.10	3.06	3.02
76.0	3.95	4.12	3.98	3.94	3.89	3.85	3.81	3.77	3.73	3.68	3.64	3.60	3.56	3.52	3.47	3.43	3.39	3.35	3.31	3.26	3.22	3.18	3.14	3.10	3.05
76.5	3.99	4.16	4.01	3.97	3.93	3.89	3.84	3.80	3.76	3.72	3.68	3.63	3.59	3.55	3.51	3.47	3.42	3.38	3.34	3.30	3.26	3.21	3.17	3.13	3.09
77.0	4.02	4.19	4.05	4.00	3.96	3.92	3.88	3.84	3.79	3.75	3.71	3.67	3.63	3.58	3.54	3.50	3.46	3.42	3.37	3.33	3.29	3.25	3.21	3.16	3.12

[4510-26-M]

APPENDIX D—PULMONARY FUNCTION STANDARDS FOR COTTON DUST STANDARD

The spirometric measurements of pulmonary function shall conform to the following minimum standards, and these standards are not intended to preclude additional testing or alternate methods which can be determined to be superior.

I. APPARATUS

a. The instrument shall be accurate to within ±50 milliliters or within ±3 percent of reading, whichever is greater.

b. The instrument should be capable of measuring vital capacity from 0 to 7 liters BTPS.

c. The instrument shall have a low inertia and offer low resistance to airflow such that the resistance to airflow at 12 liters per second must be less than 1.5 cm H_2O/(liter/sec).

d. The zero time point for the purpose of timing the FEV$_1$ shall be determined by extrapolating the steepest portion of the volume time curve back to the maximal inspiration volume (1, 2, 3, 4) or by an equivalent method.

e. Instruments incorporating measurements of airflow to determine volume shall conform to the same volume accuracy stated in (a) of this section when presented with flow rates from at least 0 to 12 liters per second.

f. The instrument or user of the instrument must have a means of correcting volumes to body temperature saturated with water vapor (BTPS) under conditions of varying ambient spirometer temperatures and barometric pressures.

g. The instrument used shall provide a tracing or display of either flow versus volume or volume versus time during the entire forced expiration. A tracing or display is necessary to determine whether the patient has performed the test properly. The tracing must be stored and available for recall and must be of sufficient size that hand measurements may be made within requirement of paragraph (a) of this section. If a paper record is made it must have a paper speed of at least 2 cm/sec and a volume sensitivity of at least 10.0 mm of chart per liter of volume.

h. The instrument shall be capable of accumulating for a minimum of 10 seconds and shall not stop accumulating volume before (1) the volume change for a 0.5 second interval is less than 25 milliliters, or (2) the flow is less than 50 milliliters per second for a 0.5 second interval.

i. The forced vital capacity (FVC) and forced expiratory volume in 1 second (FEV$^{1.0}$) measurements shall comply with the accuracy requirements stated in paragraph (a) of this section. That is, they should be accurately measured to within ±50 ml or within ±3 percent of reading, whichever is greater.

j. The instrument must be capable of being calibrated in the field with respect to the FEV$_1$ and FVC. This calibration of the FEV$_1$ and FVC may be either directly or indirectly through volume and time base measurements. The volume calibration source should provide a volume displacement of at least 2 liters and should be accurate to within ±30 milliliters.

II. TECHNIQUE FOR MEASUREMENT OF FORCED VITAL CAPACITY MANEUVER

a. Use of a nose clip is recommended but not required. The procedures shall be explained in simple terms to the patient who shall be instructed to loosen any tight clothing and stand in front of the apparatus. The subject may sit, but care should be taken on repeat testing that the same position be used and, if possible, the same spirometer. Particular attention shall be given to insure that the chin is slightly elevated with the neck slightly extended. The patient shall be instructed to make a full inspiration from a normal breathing pattern and then blow into the apparatus, without interruption, as hard, fast, and completely as possible. At least three forced expirations shall be carried out. During the maneuvers, the patient shall be observed for compliance with instructions. The expirations shall be checked visually for reproducibility from flow-volume or volume-time tracings or displays. The following efforts shall be judged unacceptable when the patient:

1. Has not reached full inspiration preceding the forced expiration,

2. Has not used maximal effort during the entire forced expiration,

3. Has not continued the expiration for at least 5 seconds or until an obvious plateau in the volume time curve has occurred,

4. Has coughed or closed his glottis,

5. Has an obstructed mouthpiece or a leak around the mouthpiece (obstruction due to tongue being placed in front of mouthpiece, false teeth falling in front of mouthpiece, etc.),

6. Has an unsatisfactory start of expiration, one characterized by excessive hesitation (or false starts), and therefore not allowing back extrapolation of time 0 (extrapolated volume on the volume time tracing must be less than 10 percent of the FVC).

7. Has an excessive variability between the three acceptable curves. The variation between the two largest FVC's and FEV$_1$'s of the three satisfactory tracings should not exceed 10 percent or ± 100 milliliters, whichever is greater.

b. Periodic and routine recalibration of the instrument or method for recording FVC and FEV$_{1.0}$ should be performed using a syringe or other volume source of at least 2 liters.

III. INTERPRETATION OF SPIROGRAM

a. The first step in evaluating a spirogram should be to determine whether or not the patient has performed the test properly or as described in II above. From the three satisfactory tracings, the forced vital capacity (FVC) and forced expiratory volume in 1 second (FEV$_{1.0}$) shall be measured and recorded. The largest observed FVC and largest observed FEV$_1$ shall be used in the analysis regardless of the curve(s) on which they occur.

b. The following guidelines are recommended by NIOSH for the evaluation and management of workers exposed to cotton dust. It is important to note that employees who show reductions in FEV$_1$/FVC ratio below .75 or drops in Monday FEV$_1$ of 5 percent or greater on their initial screening exam, should be re-evaluated within a month of the first exam. Those who show consistent decrease in lung function, as shown on the following table, should be managed as recommended.

IV. QUALIFICATIONS OF PERSONNEL ADMINISTERING THE TEST

Technicians who perform pulmonary function testing should have the basic knowledge required to produce meaningful results. Training consisting of approximately 16 hours of formal instruction should cover the following areas. Persons who successfully complete the course will be certified by OSHA or their designee.

a. Basic physiology of the forced vital capacity maneuver and the determinants of airflow limitation with emphasis on the relation to reproducibility of results.

b. Instrumentation requirements including calibration procedures, sources of error and their correction.

c. Performance of the testing including subject coaching, recognition of improperly performed maneuvers and corrective actions.

d. Data quality with emphasis on reproducibility.

e. Actual use of the equipment under supervised conditions.

f. Measurement of tracings and calculations of results.

Supplement I—Text of other OSHA standards incorporated by reference in those Part 1910 standards identified as applicable to construction work

SAFETY STANDARDS

Sec.	
1910.23(e)(11)	Wall opening screens.
1910.106(b)	Tank storage.
1910.106(c)	Piping, valves and fittings.
1910.110(b)	Basic rules (LPG's).

§ 1910.23 Guarding floor and wall openings and holes.

* * * * *

(e) * * *

(11) Wall opening screens shall be of such construction and mounting that they are capable of withstanding a load of at least 200 pounds applied horizontally at any point on the near side of the screen. They may be of solid construction, of grillwork with openings not more than 8 inches long, or of slatwork with openings not more than 4 inches wide with length unrestricted.

* * * * *

§ 1910.106 Flammable and combustible liquids.

(b) *Tank storage*—(1) *Design and construction of tanks*—(i) *Materials.* (*a*) Tanks shall be built of steel except as provided in (*b*) through (*e*) of this subdivision.

(*b*) Tanks may be built of materials other than steel for installation underground or if required by the properties of the liquid stored. Tanks located above ground or inside buildings shall be of noncombustible construction.

(*c*) Tanks built of materials other than steel shall be designed to specifications embodying principles recognized as good engineering design for the material used.

(*d*) Unlined concrete tanks may be used for storing flammable or combustible liquids having a gravity of 40° API or heavier. Concrete tanks with special lining may be used for other services provided the design is in accordance with sound engineering practice.

(*e*) Tanks may have combustible or noncombustible linings.

(*f*) Special engineering consideration shall be required if the specific gravity of the liquid to be stored exceeds that of water or if the tanks are designed to contain flammable or combustible liquids at a liquid temperature below 0° F.

(ii) *Fabrication.* (*a*) Tanks may be of any shape or type consistent with sound engineering design.

(*b*) Metal tanks shall be welded, riveted, and caulked, brazed, or bolted, or constructed by use of a combination of these methods. Filler metal used in brazing shall be nonferrous metal or an alloy having a melting point above 1000° F. and below that of the metal joined.

(iii) *Atmospheric tanks.* (*a*) Atmospheric tanks shall be built in accordance with acceptable good standards of design. Atmospheric tanks may be built in accordance with:

(*1*) Underwriters' Laboratories, Inc., Subjects No. 142, Standard for Steel Aboveground Tanks for Flammable and Combustible Liquids, 1968; No. 58, Standard for Steel Underground Tanks for Flammable and Combustible Liquids, Fifth Edition, December 1961; or No. 80, Standard for Steel Inside Tanks for Oil-Burner Fuel, September 1963.

(*2*) American Petroleum Institute Standards No. 12A, Specification for Oil Storage Tanks with Riveted Shells, Seventh Edition, September 1951, or No. 650, Welded Steel Tanks for Oil Storage, Third Edition, 1966.

(*3*) American Petroleum Institute Standards No. 12B, Specification for Bolted Production Tanks, Eleventh Edition, May 1958, and Supplement 1, March 1962; No. 12D, Specification for Large Welded Production Tanks, Seventh Edition, August 1957; or No. 12F, Specification for Small Welded Production Tanks, Fifth Edition, March 1961. Tanks built in accordance with these standards shall be used only as production tanks for storage of crude petroleum in oil-producing areas.

(*b*) Tanks designed for underground service not exceeding 2,500 gallons capacity may be used aboveground.

(*c*) Low-pressure tanks and pressure vessels may be used as atmospheric tanks.

(*d*) Atmospheric tanks shall not be used for the storage of a flammable or combustible liquid at a temperature at or above its boiling point.

(iv) *Low pressure tanks.* (*a*) The normal operating pressure of the tank shall not exceed the design pressure of the tank.

(*b*) Low-pressure tanks shall be built in accordance with acceptable standards of design. Low-pressure tanks may be built in accordance with:

(*1*) American Petroleum Institute Standard No. 620, Recommended Rules for the Design and Construction of Large, Welded, Low-Pressure Storage Tanks, Third Edition, 1966.

(*2*) The principles of the Code for Unfired Pressure Vessels, Section VIII of the ASME Boiler and Pressure Vessels Code, 1968.

(*c*) Atmospheric tanks built according to Underwriters' Laboratories, Inc., requirements in subdivision (iii)(*a*) of this subparagraph may be used for operating pressures not exceeding 1 p. s. i.g. and shall be limited to 2.5 p.s.i.g. under emergency venting conditions.

(*d*) Pressure vessels may be used as low-pressure tanks.

(v) *Pressure vessels.* (*a*) The normal operating pressure of the vessel shall not exceed the design pressure of the vessel.

(*b*) Pressure vessels shall be built in accordance with the Code for Unfired Pressure Vessels, Section VIII of the ASME Boiler and Pressure Vessel Code 1968.

(vi) *Provisions for internal corrosion.* When tanks are not designed in accordance with the American Petroleum Institute, American Society of Mechanical Engineers, or the Underwriters' Laboratories, Inc.'s, standards, or if corrosion is anticipated beyond that provided for in the design formulas used, additional metal thickness or suitable protective coatings or linings shall be provided to compensate for the corrosion loss expected during the design life of the tank.

(2) *Installation of outside aboveground tanks*—(i) *Location with respect to property lines and public ways.* (*a*) Every aboveground tank for the storage of flammable or combustible liquids, except those liquids with boil-over characteristics and unstable liquids, operating at pressures not in excess of 2.5 p.s.i.g. and equipped with emergency venting which will not permit pressures to exceed 2.5 p.s.i.g. shall be located in accordance with Table H-5.

(*b*) Every aboveground tank for the storage of flammable or combustible liquids, except those liquids with boil-over characteristics and unstable flammable or combustible liquids, operating at pressures exceeding 2.5 p.s.i.g. or equipped with emergency venting which will permit pressures to exceed 2.5 p.s.i.g. shall be located in accordance with Table H-6.

(*c*) Every aboveground tank for the storage of flammable or combustible liquids with boil-over characteristics shall be located in accordance with Table H-7.

(*d*) Every aboveground tank for the storage of unstable liquids shall be located in accordance with Table H-8.

(*e*) Reference minimum distances for use in Tables H-5 to H-8, inclusive.

(*f*) Where end failure or horizontal pressure tanks and vessels may expose property, the tank shall be placed with the longitudinal axis parallel to the nearest important exposure.

(ii) *Spacing (shell-to-shell) between aboveground tanks.* (*a*) The distance between any two flammable or combustible liquid storage tanks shall not be less than 3 feet.

(*b*) Except as provided in subdivision (*c*) of this subdivision, the distance between any two adjacent tanks shall not be less than one-sixth the sum of their diameters. When the diameter of one tank is less than one-half the diameter of the adjacent tank, the distance between the two tanks shall not be less than one-half the diameter of the smaller tank.

(*c*) Where crude petroleum in conjunction with production facilities are located in noncongested areas and have capacities not exceeding 126,000 gallons (3,000 barrels), the distance between such tanks shall not be less than 3 feet.

(*d*) Where unstable flammable or combustible liquids are stored, the distance between such tanks shall not be less than one-half the sum of their diameters.

(*e*) When tanks are compacted in three or more rows or in an irregular pattern, greater spacing or other means shall be provided so that inside tanks are accessible for firefighting purposes.

(*f*) The minimum separation between a liquefied petroleum gas container and a flammable or combustible liquid storage tank shall be 20 feet, except in the case of flammable or combustible liquid tanks operating at pressures exceeding 2.5 p.s.i.g. or equipped with emergency venting which will permit pressures to exceed 2.5 p.s.i.g. in which case the provisions of subdivisions (*a*) and (*b*) of this subdivision shall apply. Suitable means shall be taken to prevent the accumulation of flammable or combustible liquids under adjacent liquefied petroleum gas containers such as by diversion curbs or grading. When flammable or combustible liquid storage tanks are within a diked area, the liquefied petroleum gas containers shall be outside the diked area and at least 10 feet away from the centerline of the wall of the diked area. The foregoing provisions shall not apply when liquefied petroleum gas containers of 125 gallons or less capacity are installed adjacent to fuel oil supply tanks of 550 gallons or less capacity.

withdrawal can be made, the vent size shall be based on the maximum anticipated simultaneous flow.

(*e*) Unless the vent is designed to limit the internal pressure 2.5 p.s.i. or less, the outlet of vents and vent drains shall be arranged to discharge in such a manner as to prevent localized overheating of any part of the tank in the event vapors from such vents are ignited.

(*f*) Tanks and pressure vessels storing Class IA liquids shall be equipped with venting devices which shall be normally closed except when venting to pressure or vacuum conditions. Tanks and pressure vessels storing Class IB and IC liquids shall be equipped with venting devices which shall be normally closed except when venting under pressure or vacuum conditions, or with approved flame arresters.

Exemption: Tanks of 3,000 bbls. capacity or less containing crude petroleum in crude-producing areas; and, outside aboveground atmospheric tanks under 1,000 gallons capacity containing other than Class IA flammable liquids may have open vents. (See subdivision (vi)(*b*) of this subparagraph.)

(*g*) Flame arresters or venting devices required in subdivision (*f*) of this subdivision may be omitted for Class IB and IC liquids where conditions are such that their use may, in case of obstruction, result in tank damage.

(v) *Emergency relief venting for fire exposure for aboveground tanks.* (*a*) Every aboveground storage tank shall have some form of construction or device that will relieve excessive internal pressure caused by exposure fires.

(*b*) In a vertical tank the construction referred to in subdivision (*a*) of this subdivision may take the form of a floating roof, lifter roof, a weak roof-to-shell seam, or other approved pressure relieving construction. The weak roof-to-shell seam shall be constructed to fail preferential to any other seam.

(*c*) Where entire dependence for emergency relief is placed upon pressure relieving devices, the total venting capacity of both normal and emergency vents shall be enough to prevent rupture of the shell or bottom of the tank if vertical, or of the shell or heads if horizontal. If unstable liquids are stored, the effects of heat or gas resulting from polymerization, decomposition, condensation, or self-reactivity shall be taken into account. The total capacity of both normal and emergency venting devices shall be not less than that derived from Table H-10 except as provided in subdivision (*e*) or (*f*) of this subdivision. Such device may be a self-closing manhole cover, or one using long bolts that permit the cover to lift under internal pressure, or an additional or larger relief valve or valves. The wetted area of the tank shall be calculated on the basis of 55 percent of the total exposed area of a sphere or spheroid, 75 percent of the total exposed area of a horizontal tank and the first 30 feet above grade of the exposed shell area of a vertical tank.

TABLE H-10—WETTED AREA VERSUS CUBIC FEET FREE AIR PER HOUR

(14.7 psia and 60° F.)

Square feet	CFH	Square feet	CFH	Square feet	CFH
20	21,100	200	211,000	1,000	524,000
30	31,600	250	239,000	1,200	557,000
40	42,100	300	265,000	1,400	587,000
50	52,700	350	288,000	1,600	614,000
60	63,200	400	312,000	1,800	639,000
70	73,700	500	354,000	2,000	662,000
80	84,200	600	392,000	2,400	704,000
90	94,800	700	428,000	2,800 and over	742,000
100	105,000	800	462,000		
120	126,000	900	493,000		
140	147,000	1,000	524,000		
160	168,000				
180	190,000				
200	211,000				

(*d*) For tanks and storage vessels designed for pressure over 1 p.s.i.g., the total rate of venting shall be determined in accordance with Table H-10, except that when the exposed wetted area of the surface is greater than 2,800 square feet, the total rate of venting shall be calculated by the following formula:

$$CFH=1{,}107A^{0.82}$$

Where:

CFH=Venting requirement, in cubic feet of free air per hour.

A=Exposed wetted surface, in square feet.

NOTE: The foregoing formula is based on $Q=21{,}000^{0.82}$.

(*e*) The total emergency relief venting capacity for any specific stable liquid may be determined by the following formula:

$$V=1337 \div L\sqrt{M}$$

V=Cubic feet of free air per hour from Table H-10.

L=Latent heat of vaporization of specific liquid in B.t.u. per pound.

M=Molecular weight of specific liquids.

(*f*) The required airflow rate of subdivision (*c*) or (*e*) of this subdivision may be multiplied by the appropriate factor listed in the following schedule when protection is provided as indicated. Only one factor may be used for any one tank.

0.5 for drainage in accordance with subdivision (vii)(*b*) of this subparagraph for tanks over 200 square feet of wetted area.

0.3 for approved water spray.

0.3 for approved insulation.

0.15 for approved water spray with approved insulation.

(iii) *Location of outside aboveground tanks with respect to important buildings on same property.* Every outside aboveground tank shall be separated from important buildings on the same property by distances not less than those specified in subdivisions (i) (*a*), (*b*), (*c*), and (*d*) of this subparagraph, whichever is applicable. The appropriate distance column in Tables H-5, H-6, H-7, H-8, or H-9, that shall be used shall be the one reading: "Minimum Distance in Feet from Nearest Side of Any Public Way or From Nearest Important Building."

TABLE H-5

Type of tank	Protection	Minimum distance in feet from property line which may be built upon, including the opposite side of a public way	Minimum distance in feet from nearest side of any public way or from nearest important building and shall be not less than 5 feet.
Floating roof	Protection for exposures.	½ times diameter of tank but need not exceed 90 ft.	⅙ times diameter of tank but need not exceed 30 ft.
	None	Diameter of tank but need not exceed 175 ft.	⅙ times diameter of tank but need not exceed 30 ft.
Vertical with weak roof to shell seam.	Approved foam or inerting system on the tank.	½ times diameter of tank but need not exceed 90 ft. and shall not be less than 5 ft.	⅙ times diameter of tank but need not exceed 30 ft.
	Protection for exposures.	Diameter of tank but need not exceed 175 ft.	⅓ times diameter of tank but need not exceed 60 ft.
	None	2 times diameter of tank but need not exceed 350 ft.	⅓ times diameter of tank but need not exceed 60 ft.
Horizontal and vertical, with emergency relief venting to limit pressures to 2.5 p.s.i.g.	Approved inerting system on the tank or approved foam system on vertical tanks.	½ times Table H-9 but shall not be less than 5 ft.	½ times Table H-9.
	Protection for exposures.	Table H-9	Table H-9.
	None	2 times Table H-9	Table H-9.

TABLE H-6

Type of tank	Protection	Minimum distance in feet from property line which may be built upon, including the opposite side of a public way	Minimum distance in feet from nearest side of any public way or from nearest important building
Any type	Protection for exposures.	1½ times Table H-9 but shall not be less than 25	1½ times Table H-9 but shall not be less than 25 ft.
	None	3 times Table H-9 but shall not be less than 50 ft.	1½ times Table H-9 but shall not be less than 25 ft.

TABLE H-7

Type of tank	Protection	Minimum distance in feet from property line which may be built upon, including the opposite side of a public way	Minimum distance in feet from nearest side of any public way or from nearest important building
Floating roof	Protection for exposures.	Diameter of tank but need not exceed 175 ft.	⅓ times diameter of tank but need not exceed 60 ft.
	None	2 times diameter of tank but need not exceed 350 ft.	⅓ times diameter of tank but need not exceed 60 ft.
Fixed roof	Approved foam or inerting system.	Diameter of tank but need not exceed 175 ft.	⅓ times diameter of tank but need not exceed 60 ft.
	Protection for exposures.	2 times diameter of tank but need not exceed 350 ft.	⅔ times diameter of tank but need not exceed 120 ft.
	None	4 times diameter of tank but need not exceed 350 ft.	⅔ times diameter of tank but need not exceed 120 ft.

TABLE H-8

Type of tank	Protection	Minimum distance in feet from property line which may be built upon, including the opposite side of a public way	Minimum distance in feet from nearest side of any public way or from nearest important building
Horizontal and vertical tanks with emergency relief venting to permit pressure not in excess of 2.5 p.s.i.g.	Tank protected with any one of the following: Approved water spray, approved inerting, approved insulation and refrigeration, approved barricade.	See table H-9, but the distance may be not less than 25 ft.	Not less than 25 ft.
	Protection for exposures	2½ times table H-9 but not less than 50 ft.	Not less than 50 ft.
	None	5 times table H-9 but not less than 100 ft.	Not less than 100 ft.
Horizontal and vertical tanks with emergency relief venting to permit pressure over 2.5 p.s.i.g.	Tank protected with any one of the following: Approved water spray, approved inerting, approved insulation and refrigeration, approved barricade.	2 times table H-9 but not less than 50 ft.	Not less than 50 ft.
	Protection for exposures	4 times table H-9 but not less than 100 ft.	Not less than 100 ft.
	None	8 times table H-9 but not less than 150 ft.	Not less than 150 ft.

(iv) *Normal venting for aboveground tanks.* (*a*) Atmospheric storage tanks shall be adequately vented to prevent the development of vacuum or pressure sufficient to distort the roof of a cone roof tank or exceeding the design pressure in the case of other atmospheric tanks, as a result of filling or emptying, and atmospheric temperature changes.

(*b*) Normal vents shall be sized either in accordance with: (*1*) The American Petroleum Institute Standard 2000 (1968), Venting Atmospheric and Low-Pressure Storage Tanks; or (*2*) other accepted standard; or (*3*) shall be at least as large as the filling or withdrawal connection, whichever is larger but in no case less than 1¼ inch nominal inside diameter.

TABLE H-9

Capacity tank gallons	Minimum distance in feet from property line which may be built upon, including the opposite side of a public way	Minimum distance in feet from nearest side of any public way or from nearest important building
275 or less	5	5
276 to 750	10	5
751 to 12,000	15	5
12,001 to 30,000	20	5
30,001 to 50,000	30	10
50,001 to 100,000	50	15
100,001 to 500,000	80	25
500,001 to 1,000,000	100	35
1,000,001 to 2,000,000	135	45
2,000,001 to 3,000,000	165	55
3,000,001 or more	175	60

(*c*) Low-pressure tanks and pressure vessels shall be adequately vented to prevent development of pressure or vacuum, as a result of filling or emptying and atmospheric temperature changes, from exceeding the design pressure of the tank or vessel. Protection shall also be provided to prevent overpressure from any pump discharging into the tank or vessel when the pump discharge pressure can exceed the design pressure of the tank or vessel.

(*d*) If any tank or pressure vessel has more than one fill or withdrawal connection and simultaneous filling or (*g*) The outlet of all vents and vent drains on tanks equipped with emergency venting to permit pressures exceeding 2.5 p.s.i.g. shall be arranged to discharge in such a way as to prevent localized overheating of any part of the tank, in the event vapors from such vents are ignited.

(*h*) Each commercial tank venting device shall have stamped on it the opening pressure, the pressure at which the valve reaches the full open position, and the flow capacity at the latter pressure, expressed in cubic feet per hour of air at 60° F. and at a pressure of 14.7 p.s.i.a.

(*i*) The flow capacity of tank venting devices 12 inches and smaller in nominal pipe size shall be determined by actual test of each type and size of vent. These flow tests may be conducted by the manufacturer if certified by a qualified impartial observer, or may be conducted by an outside agency. The flow capacity of tank venting devices larger than 12 inches nominal pipe size, including manhole covers with long bolts or equivalent, may be calculated provided that the opening pressure is actually measured, the rating pressure and corresponding free orifice area are stated, the word "calculated" appears on the nameplate, and the computation is based on a flow coefficient of 0.5 applied to the rated orifice area.

(vi) *Vent piping for aboveground tanks.* (*a*) Vent piping shall be constructed in accordance with paragraph (c) of this section.

(*b*) Where vent pipe outlets for tanks storing Class I liquids are adjacent to buildings or public ways, they shall be located so that the vapors are released at a safe point outside of buildings and not less than 12 feet above the adjacent ground level. In order to aid their dispersion, vapors shall be discharged upward or horizontally away from closely adjacent walls. Vent outlets shall be located so that flammable vapors will not be trapped by eaves or other obstructions and shall be at least five feet from building openings.

(*c*) When tank vent piping is manifolded, pipe sizes shall be such as to discharge, within the pressure limitations of the system, the vapors they may be required to handle when manifolded tanks are subject to the same fire exposure.

(vii) *Drainage, dikes, and walls for aboveground tanks—*(*a*) *Drainage and diked areas.* The area surrounding a tank or a group of tanks shall be provided with drainage as in subdivision (*b*) of this subdivision, or shall be diked as provided in subdivision (*c*) of this subdivision, to prevent accidental discharge of liquid from endangering adjoining property or reaching waterways.

(*b*) *Drainage.* Where protection of adjoining property or waterways is by means of a natural or manmade drainage system, such systems shall comply with the following:

(*1*) A slope of not less than 1 percent away from the tank toward the drainage system shall be provided.

(*2*) The drainage system shall terminate in vacant land or other area or in an impounding basin having a capacity not smaller than that of the largest tank served. This termination area and the route of the drainage system shall be so located that, if the flammable or combustible liquids in the drainage system are ignited, the fire will not seriously expose tanks or adjoining property.

(*3*) The drainage system, including automatic drainage pumps, shall not discharge to adjoining property, natural water courses, public sewers, or public drains unless the discharge of flammable or combustible liquids would not constitute a hazard, or the system is so designed that it will not permit flammable or combustible liquids to be released.

(*c*) *Diked areas.* Where protection of adjoining property or waterways is accomplished by retaining the liquid around the tank by means of a dike, the volume of the diked area shall comply with the following requirements:

(*1*) Except as provided in subdivision (*2*) of this subdivision, the volumetric capacity of the diked area shall not be less than the greatest amount of liquid that can be released from the largest tank within the diked area, assuming a full tank. The capacity of the diked area enclosing more than one tank shall be calculated by deducting the volume of the tanks other than the largest tank below the height of the dike.

(*2*) For a tank or group of tanks with fixed roofs containing crude petroleum with boilover characteristics, the volumetric capacity of the diked area shall be not less than the capacity of the largest tank served by the enclosure, assuming a full tank. The capacity of the diked enclosure shall be calculated by deducting the volume below the height of the dike of all tanks within the enclosure.

(*3*) Walls of the diked area shall be of earth, steel, concrete or solid masonry designed to be liquidtight and to withstand a full hydrostatic head. Earthen walls 3 feet or more in height shall have a flat section at the top not less than 2 feet wide. The slope of an earthen wall shall be consistent with the angle of repose of the material of which the wall is constructed.

(*4*) The walls of the diked area shall be restricted to an average height of 6 feet above interior grade.

(*5*) Where provision is made for draining water from diked areas, drainage shall be provided at a uniform slope of not less than 1 percent away from tanks toward a sump, drainbox, or other safe means of disposal located at the greatest practical distance from the tank. Such drains shall normally be controlled in a manner so as to prevent flammable or combustible liquids from entering natural water courses, public sewers, or public drains, if their presence would constitute a hazard. Control of drainage shall be accessible under fire conditions.

(*6*) No loose combustible material, empty or full drum or barrel, shall be permitted within the diked area.

(*7*) Each diked area containing two or more tanks shall be subdivided preferably by drainage channels or at least by intermediate curbs in order to prevent spills from endangering adjacent tanks within the diked area as follows:

(*i*) When storing normally stable liquids in vertical cone roof tanks constructed with weak roof-to-shell seam or approved floating roof tanks or when storing crude petroleum in producing areas in any type of tank, one subdivision for each tank in excess of 10,000 bbls. and one subdivision for each group of tanks (no tank exceeding 10,000 bbls. capacity) having an aggregate capacity not exceeding 15,000 bbls.

(*ii*) When storing normally stable flammable or combustible liquids in tanks not covered in subdivision (*i*) of this subdivision, one subdivision for each tank in excess of 100,000 gallons (2,500 bbls.) and one subdivision for each group of tanks (no tank exceeding 100,000 gallons capacity) having an aggregate capacity not exceeding 150,000 gallons (3,570 bbls.).

(*iii*) When storing unstable liquids in any type of tank, one subdivision for each tank except that tanks installed in accordance with the drainage requirements of NFPA 15-1969, Standard for Water Spray Fixed Systems for Fire Protection shall require no additional subdivision.

(*iv*) The drainage channels or intermediate curbs shall be located between tanks so as to take full advantage of the available space with due regard for the individual tank capacities. Intermediate curbs, where used, shall be not less than 18 inches in height.

(viii) *Tank openings other than vents for aboveground tanks.* (*a*) Connections for all tank openings shall be vaportight and liquidtight. Vents are covered in subdivisions (iv) through (vi) of this subparagraph.

(*b*) Each connection to an aboveground tank through which liquid can normally flow shall be provided with an internal or an external valve located as close as practical to the shell of the tank. Such valves, when external, and their connections to the tank shall be of steel except when the chemical characteristics of the liquid stored are incompatible with steel. When materials other than steel are necessary, they shall be suitable for the pressures, structural stresses, and temperatures involved, including fire exposures.

(*c*) Each connection below the liquid level through which liquid does not normally flow shall be provided with a liquidtight closure. This may be a valve, plug, or blind, or a combination of these.

(*d*) Openings for gaging shall be provided with a vaportight cap or cover.

(*e*) For Class IB and Class IC liquids other than crude oils, gasolines, and asphalts, the fill pipe shall be so designed and installed as to minimize the possibility of generating static electricity. A fill pipe entering the top of a tank shall terminate within 6 inches of the bottom of the tank and shall be installed to avoid excessive vibration.

(*f*) Filling and emptying connections which are made and broken shall be located outside of buildings at a location free from any source of ignition and not less than 5 feet away from any building opening. Such connection shall be closed and liquidtight when not in use. The connection shall be properly identified.

(3) *Installation of underground tanks*—(i) *Location.* Excavation for underground storage tanks shall be made with due care to avoid undermining of foundations of existing structures. Underground tanks or tanks under buildings shall be so located with respect to existing building foundations and supports that the loads carried by the latter cannot be transmitted to the tank. The distance from any part of a tank storing Class I liquids to the nearest wall of any basement or pit shall be not less than 1 foot, and to any property line that may be built upon, not less than 3 feet. The distance from any part of a tank storing Class II or Class III liquids to the nearest wall of any basement, pit or property line shall be not less than 1 foot.

(ii) *Depth and cover.* Underground tanks shall be set on firm foundations and surrounded with at least 6 inches of noncorrosive, inert materials such as clean sand, earth, or gravel well tamped in place. The tank shall be placed in the hole with care since dropping or rolling the tank into the hole can break a weld, puncture or damage the tank, or scrape off the protective coating of coated tanks. Tanks shall be covered with a minimum of 2 feet of earth, or shall be covered with not less than 1 foot of earth, on top of which shall be placed a slab of reinforced concrete not less than 4 inches thick. When underground tanks are, or are likely to be, subject to traffic, they shall be protected against damage from vehicles passing over them by at least 3 feet of earth cover, or 18 inches of well-tamped earth, plus 6 inches of reinforced concrete or 8 inches of asphaltic concrete. When asphaltic or reinforced concrete paving is used as part of the protection, it shall extend at least 1 foot horizontally beyond the outline of the tank in all directions.

(iii) *Corrosion protection.* Corrosion protection for the tank and its piping shall be provided by one or more of the following methods:

(*a*) Use of protective coatings or wrappings;

(*b*) Cathodic protection; or,

(*c*) Corrosion resistant materials of construction.

(iv) *Vents.* (*a*) Location and arrangement of vents for Class I liquids. Vent pipes from tanks storing Class I liquids shall be so located that the discharge point is outside of buildings, higher than the fill pipe opening, and not less than 12 feet above the adjacent ground level. Vent pipes shall discharge only upward in order to disperse vapors. Vent pipes 2 inches or less in nominal inside diameter shall not be obstructed by devices that will cause excessive back pressure. Vent pipe outlets shall be so located that flammable vapors will not enter building openings, or be trapped under eaves or other obstructions. If the vent pipe is less than 10 feet in length, or greater than 2 inches in nominal inside diameter, the outlet shall be provided with a vacuum and pressure relief device or there shall be an approved flame arrester located in the vent line at the outlet or within the approved distance from the outlet.

(*b*) Size of vents. Each tank shall be vented through piping adequate in size to prevent blow-back of vapor or liquid at the fill opening while the tank is being filled. Vent pipes shall not be less than 1¼ inch nominal inside diameter.

TABLE H-11—VENT LINE DIAMETERS

Maximum flow GPM	Pipe length*		
	50 feet	100 feet	200 feet
	Inches	*Inches*	*Inches*
100	1¼	1¼	1¼
200	1¼	1¼	1¼
300	1¼	1¼	1½
400	1¼	1½	2
500	1½	1½	2
600	1½	2	2
700	2	2	2
800	2	2	3
900	2	2	3
1,000	2	2	3

*Vent lines of 50 ft., 100 ft., and 200 ft. of pipe plus 7 ells.

(*c*) Location and arrangement of vents for Class II or Class III liquids. Vent pipes from tanks storing Class II or Class III flammable liquids shall terminate outside of the building and higher than the fill pipe opening. Vent outlets shall be above normal snow level. They may be fitted with return bends, coarse screens or other devices to minimize ingress of foreign material.

(*d*) Vent piping shall be constructed in accordance with paragraph (*c*) of this section. Vent pipes shall be so laid as to drain toward the tank without sags or traps in which liquid can collect. They shall be located so that they will not be subjected to physical damage. The tank end of the vent pipe shall enter the tank through the top.

(*e*) When tank vent piping is manifolded, pipe sizes shall be such as to discharge, within the pressure limitations of the system, the vapors they may be required to handle when manifolded tanks are filled simultaneously.

(v) *Tank openings other than vents.* (*a*) Connections for all tank openings shall be vapor or liquid tight.

(*b*) Openings for manual gaging, if independent of the fill pipe, shall be provided with a liquid-tight cap or cover. If inside a building, each such opening shall be protected against liquid overflow and possible vapor release by means of a spring loaded check valve or other approved device.

(*c*) Fill and discharge lines shall enter tanks only through the top. Fill lines shall be sloped toward the tank.

(*d*) For Class IB and Class IC liquids other than crude oils, gasolines, and asphalts, the fill pipe shall be so designed and installed as to minimize the possibility of generating static electricity by terminating within 6 inches of the bottom of the tank.

(*e*) Filling and emptying connections which are made and broken shall be located outside of buildings at a location free from any source of ignition and not less than 5 feet away from any building opening. Such connection shall be closed and liquidtight when not in use. The connection shall be properly identified.

(4) *Installation of tanks inside of buildings*—(i) *Location.* Tanks shall not be permitted inside of buildings except as provided in paragraphs (e), (g), (h), or (i) of this section.

(ii) *Vents.* Vents for tanks inside of buildings shall be as provided in subparagraphs (2)(iv), (v), (vi)(*b*), and (3)(iv) of this paragraph, except that emergency venting by the use of weak roof seams on tanks shall not be permitted. Vents shall discharge vapors outside the buildings.

(iii) *Vent piping.* Vent piping shall be constructed in accordance with paragraph (c) of this section.

(iv) *Tank openings other than vents.* (*a*) Connections for all tank openings shall be vapor or liquidtight. Vents are covered in subdivision (ii) of this subparagraph.

(*b*) Each connection to a tank inside of buildings through which liquid can normally flow shall be provided with an internal or an external valve located as close as practical to the shell of the tank. Such valves, when external, and their connections to the tank shall be of steel except when the chemical characteristics of the liquid stored are incompatible with steel. When materials other than steel are necessary, they shall be suitable for the pressures, structural stresses, and temperatures involved, including fire exposures.

(*c*) Flammable or combustible liquid tanks located inside of buildings, except in one-story buildings designed and protected for flammable or combustible liquid storage, shall be provided with an automatic-closing heat-actuated valve on each withdrawal connection below the liquid level, except for connections used for emergency disposal, to prevent continued flow in the event of fire in the vicinity of the tank. This function may be incorporated in the valve required in (*b*) of this subdivision, and if a separate valve, shall be located adjacent to the valve required in (*b*) of this subdivision.

(*d*) Openings for manual gaging, if independent of the fill pipe (see (*f*) of this subdivision), shall be provided with a vaportight cap or cover. Each such opening shall be protected against liquid overflow and possible vapor release by means of a spring loaded check valve or other approved device.

(*e*) For Class IB and Class IC liquids other than crude oils, gasolines, and asphalts, the fill pipe shall be so designed and installed as to minimize the possibility of generating static electricity by terminating within 6 inches of the bottom of the tank.

(*f*) The fill pipe inside of the tank shall be installed to avoid excessive vibration of the pipe.

(*g*) The inlet of the fill pipe shall be located outside of buildings at a location free from any source of ignition and not less than 5 feet away from any building opening. The inlet of the fill pipe shall be closed and liquidtight when not in use. The fill connection shall be properly identified.

(*h*) Tanks inside buildings shall be equipped with a device, or other means shall be provided, to prevent overflow into the building.

(5) *Supports, foundations, and anchorage for all tank locations*—(i) *General.* Tank supports shall be installed on firm foundations. Tank supports shall be of concrete, masonry, or protected steel. Single wood timber supports (not cribbing) laid horizontally may be used for outside aboveground tanks if not more than 12 inches high at their lowest point.

(ii) *Fire resistance.* Steel supports or exposed piling shall be protected by materials having a fire resistance rating of not less than 2 hours, except that steel saddles need not be protected if less than 12 inches high at their lowest point. Water spray protection or its equivalent may be used in lieu of fire-resistive materials to protect supports.

(iii) *Spheres.* The design of the supporting structure for tanks such as spheres shall receive special engineering consideration.

(iv) *Load distribution.* Every tank shall be so supported as to prevent the excessive concentration of loads on the supporting portion of the shell.

(v) *Foundations.* Tanks shall rest on the ground or on foundations made of concrete, masonry, piling, or steel. Tank foundations shall be designed to minimize the possibility of uneven settling of the tank and to minimize corrosion in any part of the tank resting on the foundation.

(vi) *Flood areas.* Where a tank is located in an area that may be subjected to flooding, the applicable precautions outlined in this subdivision shall be observed.

(*a*) No aboveground vertical storage tank containing a flammable or combustible liquid shall be located so that the allowable liquid level within the tank is below the established maximum flood stage, unless the tank is provided with a guiding structure such as described in (*m*), (*n*), and (*o*) of this subdivision.

(*b*) Independent water supply facilities shall be provided at locations where there is no ample and dependable public water supply available for loading partially empty tanks with water.

(*c*) In addition to the preceding requirements, each tank so located that more than 70 percent, but less than 100 percent, of its allowable liquid storage capacity will be submerged at the established maximum flood stage, shall be safeguarded by one of the following methods: Tank shall be raised, or its height shall be increased, until its top extends above the maximum flood stage a distance equivalent to 30 percent or more of its allowable liquid storage capacity: *Provided, however,* That the submerged part of the tank shall not exceed two and one-half times the diameter. Or, as an alternative to the foregoing, adequate noncombustible structural guides, designed to permit the tank to float vertically without loss of product, shall be provided.

(*d*) Each horizontal tank so located that more than 70 percent of its storage capacity will be submerged at the established flood stage, shall be anchored, attached to a foundation of concrete or of steel and concrete, of sufficient weight to provide adequate load for the tank when filled with flammable or combustible liquid and submerged by flood waters to the established flood stage, or adequately secured by other means.

(*e*) Spherical and spheroidal tanks shall be protected by applicable methods as specified for either vertical or horizontal tanks.

(*f*) At locations where there is no ample and dependable water supply, or where filling of underground tanks with liquids is impracticable because of the character of their contents, their use, or for other reasons, each tank shall be safeguarded against movement when empty and submerged by high ground water or flood waters by anchoring, weighting with concrete or other approved solid loading material, or securing by other means. Each such tank shall be so constructed and installed that it will safely resist external pressures due to high ground water or flood waters.

(*g*) At locations where there is an ample and dependable water supply available, underground tanks containing flammable or combustible liquids, so installed that more than 70 percent of their storage capacity will be submerged at the maximum flood stage, shall be so anchored, weighted, or secured by other means, as to prevent movement of such tanks when filled with flammable or combustible liquids, and submerged by flood waters to the established flood stage.

(*h*) Pipe connections below the allowable liquid level in a tank shall be provided with valves or cocks located as closely as practicable to the tank shell. Such valves and their connections to tanks shall be of steel or other material suitable for use with the liquid being stored. Cast iron shall not be permitted.

(*i*) At locations where an independent water supply is required, it shall be entirely independent of public power and water supply. Independent source of water shall be available when flood waters reach a level not less than 10 feet below the bottom of the lowest tank on a property.

(*j*) The self-contained power and pumping unit shall be so located or so designed that pumping into tanks may be carried on continuously throughout the rise in flood waters from a level 10 feet below the lowest tank to the level of the potential flood stage.

(*k*) Capacity of the pumping unit shall be such that the rate of rise of water in all tanks shall be equivalent to the established potential average rate of rise of flood waters at any stage.

(*l*) Each independent pumping unit shall be tested periodically to insure that it is in satisfactory operating condition.

(*m*) Structural guides for holding floating tanks above their foundations shall be so designed that there will be no resistance to the free rise of a tank, and shall be constructed of noncombustible material.

(*n*) The strength of the structure shall be adequate to resist lateral movement of a tank subject to a horizontal force in any direction equivalent to not less than 25 pounds per square foot acting on the projected vertical cross-sectional area of the tank.

(*o*) Where tanks are situated on exposed points or bends in a shoreline where swift currents in flood waters will be present, the structures shall be designed to withstand a unit force of not less than 50 pounds per square foot.

(*p*) The filling of a tank to be protected by water loading shall be started as soon as flood waters reach a dangerous flood stage. The rate of filling shall be at least equal to the rate of rise of the floodwaters (or the established average potential rate of rise).

(*q*) Sufficient fuel to operate the water pumps shall be available at all times to insure adequate power to fill all tankage with water.

(*r*) All valves on connecting pipelines shall be closed and locked in closed position when water loading has been completed.

(*s*) Where structural guides are provided for the protection of floating tanks, all rigid connections between tanks and pipelines shall be disconnected and blanked off or blinded before the floodwaters reach the bottom of the tank, unless control valves and their connections to the tank are of a type designed to prevent breakage between the valve and the tank shell.

(*t*) All valves attached to tanks other than those used in connection with water loading operations shall be closed and locked.

(*u*) If a tank is equipped with a swing line, the swing pipe shall be raised to and secured at its highest position.

(*v*) Inspections. The Assistant Secretary or his designated representative shall make periodic inspections of all plants where the storage of flammable or combustible liquids is such as to require compliance with the foregoing requirements, in order to assure the following:

(*1*) That all flammable or combustible liquid storage tanks are in compliance with these requirements and so maintained.

(*2*) That detailed printed instructions of what to do in flood emergencies are properly posted.

(*3*) That station operators and other employees depended upon to carry out such instructions are thoroughly informed as to the location and operation of such valves and other equipment necessary to effect these requirements.

(vii) *Earthquake areas.* In areas subject to earthquakes, the tank supports and connections shall be designed to resist damage as a result of such shocks.

(6) *Sources of ignition.* In locations where flammable vapors may be present, precautions shall be taken to prevent ignition by eliminating or controlling sources of ignition. Sources of ignition may include open flames, lightning, smoking, cutting and welding, hot surfaces, frictional heat, sparks (static, electrical, and mechanical), spontaneous ignition, chemical and physical-chemical reactions, and radiant heat.

(7) *Testing*—(i) *General.* All tanks, whether shop built or field erected, shall be strength tested before they are placed in service in accordance with the applicable paragraphs of the code under which they were built. The American Society of Mechanical Engineers (ASME) code stamp, American Petroleum Institute (API) monogram, or the label of the Underwriters' Laboratories, Inc., on a tank shall be evidence of compliance with this strength test. Tanks not marked in accordance with the above codes shall be strength tested before they are placed in service in accordance with good engineering principles and reference shall be made to the sections on testing in the codes listed in subparagraphs (1) (iii) (*a*), (iv) (*b*), or (v) (*b*) of this paragraph.

(ii) *Strength.* When the vertical length of the fill and vent pipes is such that when filled with liquid the static head imposed upon the bottom of the tank exceeds 10 pounds per square inch, the tank and related piping shall be tested hydrostatically to a pressure equal to the static head thus imposed.

(iii) *Tightness.* In addition to the strength test called for in subdivisions (i) and (ii) of this subparagraph, all tanks and connections shall be tested for tightness. Except for underground tanks, this tightness test shall be made at operating pressure with air, inert gas, or water prior to placing the tank in service. In the case of field-erected tanks the strength test may be considered to be the test for tank tightness. Underground tanks and piping, before being covered, enclosed, or placed in use, shall be tested for tightness hydrostatically, or with air pressure at not less than 3 pounds per square inch and not more than 5 pounds per square inch.

(iv) *Repairs.* All leaks or deformations shall be corrected in an acceptable manner before the tank is placed in service. Mechanical caulking is not permitted for correcting leaks in welded tanks except pinhole leaks in the roof.

(v) *Derated operations.* Tanks to be operated at pressures below their design pressure may be tested by the applicable provisions of subdivisions (i) or (ii) of this subparagraph, based upon the pressure developed under full emergency venting of the tank.

(c) *Piping, valves, and fittings*—(1) *General*—(i) *Design.* The design (including selection of materials) fabrication, assembly, test, and inspection of piping systems containing flammable or combustible liquids shall be suitable for the expected working pressures and structural stresses. Conformity with the applicable provisions of Pressure Piping, ANSI B31 series and the provisions of this paragraph, shall be considered prima facie evidence of compliance with the foregoing provisions.

(ii) *Exceptions.* This paragraph does not apply to any of the following:

(*a*) Tubing or casing on any oil or gas wells and any piping connected directly thereto.

(*b*) Motor vehicle, aircraft, boat, or portable or stationary engines.

(*c*) Piping within the scope of any applicable boiler and pressures vessel code.

(iii) *Definitions.* As used in this paragraph, piping systems consist of pipe, tubing, flanges, bolting, gaskets, valves, fittings, the pressure containing parts of other components such as expansion joints and strainers, and devices which serve such purposes as mixing, separating, snubbing, distributing, metering, or controlling flow.

(2) *Materials for piping, valves, and fittings*—(i) *Required materials.* Materials for piping, valves, or fittings shall be steel, nodular iron, or malleable iron, except as provided in paragraph (c) (2) (ii), (iii) and (iv) of this section.

(ii) *Exceptions.* Materials other than steel, nodular iron, or malleable iron may be used underground, or if required by the properties of the flammable or combustible liquid handled. Material other than steel, nodular iron, or malleable iron shall be designed to specifications embodying principles recognized as good engineering practices for the material used.

(iii) *Linings.* Piping, valves, and fittings may have combustible or noncombustible linings.

(iv) *Low-melting materials.* When low-melting point materials such as aluminum and brass or materials that soften on fire exposure such as plastics, or nonductile materials such as cast iron, are necessary, special consideration shall be given to their behavior on fire exposure. If such materials are used in above ground piping systems or inside buildings, they shall be suitably protected against fire exposure or so located that any spill resulting from the failure of these materials could not unduly expose persons, important buildings or structures or can be readily controlled by remote valves.

(3) *Pipe joints.* Joints shall be made liquid tight. Welded or screwed joints or approved connectors shall be used. Threaded joints and connections shall be made up tight with a suitable lubricant or piping compound. Pipe joints dependent upon the friction characteristics of combustible materials for mechanical continuity of piping shall not be used inside buildings. They may be used outside of buildings above or below ground. If used above ground, the piping shall either be secured to prevent disengagement at the fitting or the piping system shall be so designed that any spill resulting from such disengagement could not unduly expose persons, important buildings or structures, and could be readily controlled by remote valves.

(4) *Supports.* Piping systems shall be substantially supported and protected against physical damage and excessive stresses arising from settlement, vibration, expansion, or contraction.

(5) *Protection against corrosion.* All piping for flammable or combustible liquids, both aboveground and underground, where subject to external corrosion, shall be painted or otherwise protected.

(6) *Valves.* Piping systems shall contain a sufficient number of valves to operate the system properly and to protect the plant. Piping systems in connection with pumps shall contain a sufficient number of valves to control properly the flow of liquid in normal operation and in the event of physical damage. Each connection to pipelines, by which equipments such as tankcars or tank vehicles discharge liquids by means of pumps into storage tanks, shall be provided with a check valve for automatic protection against backflow if the piping arrangement is such that backflow from the system is possible.

(7) *Testing.* All piping before being covered, enclosed, or placed in use shall be hydrostatically tested to 150 percent of the maximum anticipated pressure of the system, or pneumatically tested to 110 percent of the maximum anticipated pressure of the system, but not less than 5 pounds per square inch gage at the highest point of the system. This test shall be maintained for a sufficient time to complete visual inspection of all joints and connections, but for at least 10 minutes.

§ 1910.110 Storage and handling of liquefied petroleum gases.

* * * * *

(b) *Basic rules*—(1) *Odorizing gases.* (i) All liquefied petroleum gases shall be effectively odorized by an approved agent of such character as to indicate positively, by distinct odor, the presence of gas down to concentration in air of not over one-fifth the lower limit of flammability. Odorization, however, is not required if harmful in the use of further processing of the liquefied petroleum gas, or if odorization will serve no useful purpose as a warning agent in such use or further processing.

(ii) The odorization requirement of subdivision (i) of this subparagraph shall be considered to be met by the use of 1.0 pounds of ethyl mercaptan, 1.0 pounds of thiophane or 1.4 pounds of amyl mercaptan per 10,000 gallons of LP-Gas. However, this listing of odorants and quantities shall not exclude the use of other odorants that meet the odorization requirements of subdivision (i) of this subparagraph.

(2) *Approval of equipment and systems.* (i) Each system utilizing DOT containers in accordance with 49 CFR Part 178 shall have its container valves, connectors, manifold valve assemblies, and regulators approved.

(ii) Each system for domestic or commercial use utilizing containers of 2,000 gallons or less water capacity, other than those constructed in accordance with 49 CFR Part 178, shall consist of a container assembly and one or more regulators, and may include other parts. The system as a unit or the container assembly as a unit, and the regulator or regulators, shall be individually listed.

(iii) In systems utilizing containers of over 2,000 gallons water capacity, each regulator, container valve, excess flow valve, gaging device, and relief valve installed on or at the container, shall have its correctness as to design, construction, and performance determined by listing by Underwriters' Laboratories, Inc., or Factory Mutual Engineering Corp.

(3) *Requirements for construction and original test of containers.* (i) Containers used with systems embodied in paragraphs (d), (e), (g), and (h) of this section, except as provided in paragraphs (e)(3)(iii) and (g)(2)(i) of this section, shall be designed, constructed, and tested in accordance with the Rules for Construction of Unfired Pressure Vessels, section VIII, Division 1, American Society of Mechanical Engineers (ASME) Boiler and Pressure Vessel Code, 1968 edition.

(ii) Containers constructed according to the 1949 and earlier editions of the ASME Code do not have to comply with paragraphs U-2 through U-10 and U-19 thereof. Containers constructed according to paragraph U-70 in the 1949 and earlier editions are not authorized.

(iii) Containers designed, constructed, and tested prior to July 1, 1961, according to the Code for Unfired Pressure Vessels for Petroleum Liquids and Gases, 1951 edition with 1954 Addenda, of the American Petroleum Institute and the American Society of Mechanical Engineers shall be considered in conformance. Containers constructed according to API-ASME Code do not have to comply with section I or with appendix to section I. Paragraphs W-601 to W-606 inclusive in the 1943 and earlier editions do not apply.

(iv) The provisions of subdivision (i) of this subparagraph shall not be construed as prohibiting the continued use or reinstallation of containers constructed and maintained in accordance with the standard for the Storage and Handling of Liquefied Petroleum Gases NFPA No. 58 in effect at the time of fabrication.

(v) Containers used with systems embodied in paragraph (b), (d)(3)(iii), and (f) of this section, shall be constructed, tested, and stamped in accordance with DOT specifications effective at the date of their manufacture.

(4) *Welding of containers.* (i) Welding to the shell, head, or any other part of the container subject to internal pressure, shall be done in compliance with the code under which the tank was fabricated. Other welding is permitted only on saddle plates, lugs, or brackets attached to the container by the tank manufacturer.

(ii) Where repair or modification involving welding of DOT containers is required, the container shall be returned to a qualified manufacturer making containers of the same type, and the repair or modification made in compliance with DOT regulations.

(5) *Markings on containers.* (i) Each container covered in subparagraph (3)(i) of this paragraph, except as provided in subparagraph (3)(iv) of this paragraph shall be marked as specified in the following:

(*a*) With a marking identifying compliance with, and other markings required by, the rules of the reference under which the container is constructed; or with the stamp and other markings required by the National Board of Boiler and Pressure Vessel Inspectors.

(*b*) With notation as to whether the container is designed for underground or aboveground installation or both. If intended for both and different style hoods are provided, the marking shall indicate the proper hood for each type of installation.

(*c*) With the name and address of the supplier of the container, or with the trade name of the container.

(*d*) With the water capacity of the container in pounds or gallons, U.S. Standard.

(*e*) With the pressure in p.s.i.g., for which the container is designed.

(*f*) With the wording "This container shall not contain a product having a vapor pressure in excess of — p.s.i.g. at 100° F.," see subparagraph (14)(viii) of this paragraph.

(*g*) With the tare weight in pounds or other identified unit of weight for containers with a water capacity of 300 pounds or less.

(*h*) With marking indicating the maximum level to which the container may be filled with liquid at temperatures between 20° F. and 130° F., except on containers provided with fixed maximum level indicators or which are filled by weighing. Markings shall be increments of not more than 20° F. This marking may be located on the liquid level gaging device.

(*i*) With the outside surface area in square feet.

(ii) Markings specified shall be on a metal nameplate attached to the container and located in such a manner as to remain visible after the container is installed.

(iii) When LP-Gas and one or more other gases are stored or used in the same area, the containers shall be marked to identify their content. Marking shall be in compliance with American National Standard Z48.1-1954, "Method of Marking Portable Compressed Gas Containers To Identify the Material Contained."

(6) *Location of containers and regulating equipment.* (i) Containers, and first stage regulating equipment if used, shall be located outside of buildings, except under one or more of the following:

(*a*) In buildings used exclusively for container charging, vaporization pressure reduction, gas mixing, gas manufacturing, or distribution.

(*b*) When portable use is necessary and in accordance with paragraph (c)(5) of this section.

(*c*) LP-Gas fueled stationary or portable engines in accordance with paragraph (e) (11) or (12) of this section.

(*d*) LP-Gas fueled industrial trucks used in accordance with paragraph (e)(13) of this section.

(*e*) LP-Gas fueled vehicles garaged in accordance with paragraph (e)(14) of this section.

(*f*) Containers awaiting use or resale when stored in accordance with paragraph (f) of this section.

(ii) Each individual container shall be located with respect to the nearest important building or group of buildings or line of adjoining property which may be built in accordance with Table H-23.

TABLE H-23

Water capacity per container	Minimum distances: Containers: Underground	Minimum distances: Containers: Aboveground	Minimum distances: Between aboveground containers
Less than 125 gals.[1]	10 feet	None	None.
125 to 250 gals	10 feet	10 feet	None.
251 to 500 gals	10 feet	10 feet	3 feet.
501 to 2,000 gals	25 feet[2]	25 feet[2]	3 feet.
2,001 to 30,000 gals.	50 feet	50 feet	5 feet.
30,001 to 70,000 gals.	50 feet	75 feet	¼ of sum of diameters of adjacent containers.
70,001 to 90,000 gals.	50 feet	100 feet	

[1] If the aggregate water capacity of a multi-container installation at a consumer site is 501 gallons or greater, the minimum distance shall comply with the appropriate portion of this table, applying the aggregate capacity rather than the capacity per container. If more than one installation is made, each installation shall be separated from another installation by at least 25 feet. Do not apply the MINIMUM DISTANCES BETWEEN ABOVEGROUND CONTAINERS to such installations.

[2] NOTE: The above distance requirements may be reduced to not less than 10 feet for a single container of 1,200 gallons water capacity or less, providing such a container is at least 25 feet from any other LP-Gas container of more than 125 gallons water capacity.

(iii) Containers installed for use shall not be stacked one above the other.

(iv) In industrial installations involving containers of 180,000 gallons aggregate water capacity or more, where serious mutual exposures between the container and adjacent properties prevail, firewalls or other means of special protection designed and constructed in accordance with good engineering practices are required.

(v) In the case of buildings devoted exclusively to gas manufacturing and distributing operations, the distances required by Table H-23 may be reduced provided that in no case shall containers of water capacity exceeding 500 gallons be located closer than 10 feet to such gas manufacturing and distributing buildings.

(vi) Readily ignitible material such as weeds and long dry grass shall be removed within 10 feet of any container.

(vii) The minimum separation between liquefied petroleum gas containers and flammable liquid tanks shall be 20 feet, and the minimum separation between a container and the centerline of the dike shall be 10 feet. The foregoing provision shall not apply when LP-Gas containers of 125 gallons or less capacity are installed adjacent to Class III flammable liquid tanks of 275 gallons or less capacity.

(viii) Suitable means shall be taken to prevent the accumulation of flammable liquids under adjacent liquified petroleum gas containers, such as by diking, diversion curbs, or grading.

(ix) When dikes are used with flammable liquid tanks, no liquefied petroleum gas containers shall be located within the diked area.

(7) *Container valves and container accessories.* (i) Valves, fittings, and accessories connected directly to the container including primary shutoff valves, shall have a rated working pressure of at least 250 p.s.i.g. and shall be of material and design suitable for LP-Gas service. Cast iron shall not be used for container valves, fittings, and accessories. This does not prohibit the use of container valves made of malleable or nodular iron.

(ii) Connections to containers, except safety relief connections, liquid level gaging devices, and plugged openings, shall have shutoff valves located as close to the container as practicable.

(iii) Excess flow valves, where required shall close automatically at the rated flows of vapor or liquid as specified by the manufacturer. The connections or line including valves, fittings, etc., being protected by an excess flow valve shall have a greater capacity than the rated flow of the excess flow valve.

(iv) Liquid level gaging devices which are so constructed that outward flow of container contents shall not exceed that passed by a No. 54 drill size opening, need not be equipped with excess flow valves.

(v) Openings from container or through fittings attached directly on container to which pressure gage connection is made, need not be equipped with shutoff or excess flow valves if such openings are restricted to not larger than No. 54 drill size opening.

(vi) Except as provided in paragraph (c)(5)(i)(*b*) of this section, excess flow and back pressure check valves where required by this section shall be located inside of the container or at a point outside where the line enters the container; in the latter case, installation shall be made in such manner that any undue strain beyond the excess flow or back pressure check valve will not cause breakage between the container and such valve.

(vii) Excess flow valves shall be designed with a bypass, not to exceed a No. 60 drill size opening to allow equalization of pressures.

(viii) Containers of more than 30 gallons water capacity and less than 2,000 gallons water capacity, filled on a volumetric basis, and manufactured after

December 1, 1963, shall be equipped for filling into the vapor space.

(8) *Piping—including pipe, tubing, and fittings.* (i) Pipe, except as provided in paragraphs (e)(6)(i) and (g)(10)(iii), of this section shall be wrought iron or steel (black or galvanized), brass, copper, or aluminum alloy. Aluminum alloy pipe shall be at least Schedule 40 in accordance with the specifications for Aluminum Alloy Pipe, American National Standards Institute (ANSI) H38.-7-1969 (ASTM, B241-69), except that the use of alloy 5456 is prohibited and shall be suitably marked at each end of each length indicating compliance with American National Standards Institute Specifications. Aluminum Alloy pipe shall be protected against external corrosion when it is in contact with dissimilar metals other than galvanized steel, or its location is subject to repeated wetting by such liquids as water (except rain water), detergents, sewage, or leaking from other piping, or it passes through flooring, plaster, masonry, or insulation. Galvanized sheet steel or pipe, galvanized inside and out, may be considered suitable protection. The maximum nominal pipe size for aluminum pipe shall be three-fourths inch and shall not be used for pressures exceeding 20 p.s.i.g. Aluminum alloy pipe shall not be installed within 6 inches of the ground.

(*a*) Vapor piping with operating pressures not exceeding 125 p.s.i.g. shall be suitable for a working pressure of at least 125 p.s.i.g. Pipe shall be at least Schedule 40 (ASTM A-53-69, Grade B Electric Resistance Welded and Electric Flash Welded Pipe or equal).

(*b*) Vapor piping with operating pressures over 125 p.s.i.g. and all liquid piping shall be suitable for a working pressure of at least 250 p.s.i.g. Pipe shall be at least Schedule 80 if joints are threaded or threaded and back welded. At least Schedule 40 (ASTM A-53-69 Grade B Electric Resistance Welded and Electric Flash Welded Pipe or equal) shall be used if joints are welded, or welded and flanged.

(ii) Tubing shall be seamless and of copper, brass, steel, or aluminum alloy. Copper tubing shall be of type K or L or equivalent as covered in the Specification for Seamless Copper Water Tube, ANSI H23.1-1970 (ASTM B88-69). Aluminum alloy tubing shall be of Type A or B or equivalent as covered in Specification ASTM B210-68 and shall be suitably marked every 18 inches indicating compliance with ASTM Specifications. The minimum nominal wall thickness of copper tubing and aluminum alloy tubing shall be as specified in Table H-24 and Table H-25.

TABLE H-24—WALL THICKNESS OF COPPER TUBING [1]

NOTE: The standard size by which tube is designated is ⅛-inch smaller than its nominal outside diameter.

Standard size (inches)	Nominal O.D. (inches)	Nominal wall thickness (inches)	
		Type K	Type L
¼	0.375	0.035	0.030
⅜	0.500	0.049	0.035
½	0.625	0.049	0.040
⅝	0.750	0.049	0.042
¾	0.875	0.065	0.045
1	1.125	0.065	0.050
1¼	1.375	0.065	0.055
1½	1.625	0.072	0.060
2	2.125	0.083	0.070

[1] Based on data in Specification for Seamless Copper Water Tube, ANSI H23.1-1970 (ASTM B-88-69).

TABLE H-25—WALL THICKNESS OF ALUMINUM ALLOY TUBING [1]

Outside diameter (inches)	Nominal wall thickness (inches)	
	Type A	Type B
⅜	0.035	0.049
½	0.035	0.049
⅝	0.042	0.049
¾	0.049	0.058

[1] Based on data in Standard Specification for Aluminum-Alloy Drawn Seamless Coiled Tubes for Special Purpose Applications, ASTM B210-68.

Aluminum alloy tubing shall be protected against external corrosion when it is in contact with dissimilar metals other than galvanized steel, or its location is subject to repeated wetting by liquids such as water (except rainwater), detergents, sewage, or leakage from other piping, or it passes through flooring, plaster, masonry, or insulation. Galvanized sheet steel or pipe, galvanized inside and out, may be considered suitable protection. The maximum outside diameter for aluminum alloy tubing shall be three-fourths inch and shall not be used for pressures exceeding 20 p.s.i.g. Aluminum alloy tubing shall not be installed within 6 inches of the ground.

(iii) In systems where the gas in liquid form without pressure reduction enters the building, only heavy walled seamless brass or copper tubing with an internal diameter not greater than three thirty-seconds inch, and a wall thickness of not less than three sixty-fourths inch shall be used. This requirement shall not apply to research and experimental laboratories, buildings, or separate fire divisions of buildings used exclusively for housing internal combustion engines, and to commercial gas plants or bulk stations where containers are charged, nor to industrial vaporizer buildings, nor to buildings, structures, or equipment under construction or undergoing major renovation.

(iv) Pipe joints may be screwed, flanged, welded, soldered, or brazed with a material having a melting point exceeding 1,000° F. Joints on seamless copper, brass, steel, or aluminum alloy gas tubing shall be made by means of approved gas tubing fittings, or soldered or brazed with a material having a melting point exceeding 1,000° F.

(v) For operating pressures of 125 p.s.i.g. or less, fittings shall be designed for a pressure of at least 125 p.s.i.g. For operating pressures above 125 p.s.i.g., fittings shall be designed for a minimum of 250 p.s.i.g.

(vi) The use of threaded cast iron pipe fittings such as ells, tees, crosses, couplings, and unions is prohibited. Aluminum alloy fittings shall be used with aluminum alloy pipe and tubing. Insulated fittings shall be used where aluminum alloy pipe or tubing connects with a dissimilar metal.

(vii) Strainers, regulators, meters, compressors, pumps, etc., are not to be considered as pipe fittings. This does not prohibit the use of malleable, nodular, or higher strength gray iron for such equipment.

(viii) All materials such as valve seats, packing, gaskets, diaphragms, etc., shall be of such quality as to be resistant to the action of liquefied petroleum gas under the service conditions to which they are subjected.

(ix) All piping, tubing, or hose shall be tested after assembly and proved free from leaks at not less than normal operating pressures. After installation, piping and tubing of all domestic and commercial systems shall be tested and proved free of leaks using a manometer or equivalent device that will indicate a drop in pressure. Test shall not be made with a flame.

(x) Provision shall be made to compensate for expansion, contraction, jarring, and vibration, and for settling. This may be accomplished by flexible connections.

(xi) Piping outside buildings may be buried, above ground, or both, but shall be well supported and protected against physical damage. Where soil conditions warrant, all piping shall be protected against corrosion. Where condensation may occur, the piping shall be pitched back to the container, or suitable means shall be provided for revaporization of the condensate.

(9) *Hose specifications.* (i) Hose shall be fabricated of materials that are resistant to the action of LP-Gas in the liquid and vapor phases. If wire braid is used for reinforcing the hose, it shall be of corrosion-resistant material such as stainless steel.

(ii) Hose subject to container pressure shall be marked "LP-Gas" or "LPG" at not greater than 10-foot intervals.

(iii) Hose subject to container pressure shall be designed for a bursting pressure of not less than 1,250 p.s.i.g.

(iv) Hose subject to container pressure shall have its correctness as to design construction and performance determined by being listed (see § 1910.110(a)(15)).

(v) Hose connections subject to container pressure shall be capable of withstanding, without leakage, a test pressure of not less than 500 p.s.i.g.

(vi) Hose and hose connections on the low-pressure side of the regulator or reducing valve shall be designed for a bursting pressure of not less than 125 p.s.i.g. or five times the set pressure of the relief devices protecting that portion of the system, whichever is higher.

(vii) Hose may be used on the low-pressure side of regulators to connect to other than domestic and commercial gas appliances under the following conditions:

(*a*) The appliances connected with hose shall be portable and need a flexible connection.

(*b*) For use inside buildings the hose shall be of minimum practical length, but shall not exceed 6 feet except as provided in paragraph (c)(5)(i)(*g*) of this section and shall not extend from one room to another, nor pass through any walls, partitions, ceilings, or floors. Such hose shall not be concealed from view or used in a concealed location. For use outside of buildings, the hose may exceed this length but shall be kept as short as practical.

(*c*) The hose shall be approved and shall not be used where it is likely to be subjected to temperatures above 125° F. The hose shall be securely connected to the appliance and the use of rubber slip ends shall not be permitted.

(*d*) The shutoff valve for an appliance connected by hose shall be in the metal pipe or tubing and not at the appliance end of the hose. When shutoff valves are installed close to each other, precautions shall be taken to prevent operation of the wrong valve.

(*e*) Hose used for connecting to wall outlets shall be protected from physical damage.

(10) *Safety devices.* (i) Every container except those constructed in accordance with DOT specifications and every vaporizer (except motor fuel vaporizers and except vaporizers described in subparagraph (11)(ii)(*c*) of this paragraph and paragraph (d)(4)(v)(*a*) of this section) whether heated by artificial means or not, shall be provided with one or more safety relief valves of spring-loaded or equivalent type. These valves shall be arranged to afford free vent to the outer air with discharge not less than 5 feet horizontally away from any opening into the building which is below such discharge. The rate of discharge shall be in accordance with the requirements of subdivision (ii) of this subparagraph or subdivision (iii) of this subparagraph in the case of vaporizers.

(ii) Minimum required rate of discharge in cubic feet per minute of air at 120 percent of the maximum permitted start to discharge pressure for safety relief valves to be used on containers other than those constructed in accordance with DOT specification shall be as follows:

Surface area (sq. ft.)	*Flow rate CFM air*
20 or less	626
25	751
30	872
35	990
40	1,100
45	1,220
50	1,330
55	1,430
60	1,540
65	1,640
70	1,750
75	1,850
80	1,950
85	2,050
90	2,150
95	2,240
100	2,340
105	2,440
110	2,530
115	2,630
120	2,720
125	2,810
130	2,900
135	2,990
140	3,080
145	3,170
150	3,260
155	3,350
160	3,440
165	3,530
170	3,620
175	3,700
180	3,790
185	3,880
190	3,960
195	4,050
200	4,130
210	4,300
220	4,470
230	4,630
240	4,800
250	4,960
260	5,130
270	5,290
280	5,450
290	5,610
300	5,760
310	5,920
320	6,080
330	6,230
340	6,390
350	6,540
360	6,690
370	6,840
380	7,000
390	7,150
400	7,300
450	8,040
500	8,760
550	9,470
600	10,170
650	10,860
700	11,550
750	12,220
800	12,880
850	13,540
900	14,190
950	14,830
1,000	15,470
1,050	16,100
1,100	16,720
1,150	17,350
1,200	17,960
1,250	18,570
1,300	19,180
1,350	19,780
1,400	20,380
1,450	20,980
1,500	21,570
1,550	22,160
1,600	22,740
1,650	23,320
1,700	23,900
1,750	24,470
1,800	25,050
1,850	25,620
1,900	26,180
1,950	26,750
2,000	27,310

Surface area=total outside surface area of container in square feet.

When the surface area is not stamped on the nameplate or when the marking is not legible, the area can be calculated by using one of the following formulas:

(1) Cylindrical container with hemispherical heads:

Area=Overall length×outside diameter×3.1416.

(2) Cylindrical container with other than hemispherical heads:

Area=Overall length+0.3 outside diameter×outside diameter×3.1416.

NOTE: This formula is not exact, but will give results within the limits of practical accuracy for the sole purpose of sizing relief valves.

(3) Spherical container:

Area=Outside diameter squared×3.1416.

Flow Rate-CFM Air=Required flow capacity in cubic feet per minute of air at standard conditions, 60 F. and atmospheric pressure (14.7 p.s.i.a.).

The rate of discharge may be interpolated for intermediate values of surface area. For containers with total outside surface area greater than 2,000 square feet, the required flow rate can be calculated using the formula, Flow Rate-CFM Air=53.632 $A^{0.82}$.

A=total outside surface area of the container in square feet.

Valves not marked "Air" have flow rate marking in cubic feet per minute of liquefied petroleum gas. These can be converted to ratings in cubic feet per minute of air by multiplying the liquefied petroleum gas ratings by factors listed below. Air flow ratings can be converted to ratings in cubic feet per minute of liquefied petroleum gas by dividing the air ratings by the factors listed below.

AIR CONVERSION FACTORS

Container type	100	125	150	175	200
Air conversion factor	1.162	1.142	1.113	1.078	1.010

(iii) Minimum Required Rate of Discharge for Safety Relief Valves for Liquefied Petroleum Gas Vaporizers (Steam Heated, Water Heated, and Direct Fired).

The minimum required rate of discharge for safety relief valves shall be determined as follows:

(*a*) Obtain the total surface area by adding the surface area of vaporizer shell in square feet directly in contact with LP-Gas and the heat exchanged surface area in square feet directly in contact with LP-Gas.

(*b*) Obtain the minimum required rate of discharge in cubic feet of air per minute, at 60° F. and 14.7 p.s.i.a. from subdivision (ii) of this subparagraph, for this total surface area.

(iv) Container and vaporizer safety relief valves shall be set to start-to-discharge, with relation to the design pressure of the container, in accordance with Table H-26.

TABLE H-26

Containers	Minimum (percent)	Maximum (percent)
ASME Code; Par. U-68, U-69—1949 and earlier editions	110	[1]125
ASME Code; Par. U-200, U-201—1949 edition	88	[1]100
ASME Code—1950, 1952, 1956, 1959, 1962, 1965 and 1968 (Division I) editions	88	[1]100
API—ASME Code—all editions	88	[1]100
DOT—As prescribed in 49 CFR Chapter I		

[1] Manufacturers of safety relief valves are allowed a plus tolerance not exceeding 10 percent of the set pressure marked on the valve.

(v) Safety relief devices used with systems employing containers other than those constructed according to DOT specifications shall be so constructed as to discharge at not less than the rates shown in subdivision (ii) of this subparagraph, before the pressure is in excess of 120 percent of the maximum (not including the 10 percent referred to in subdivision (iv) of this subparagraph) permitted start to discharge pressure setting of the device.

(vi) In certain locations sufficiently sustained high temperatures prevail which require the use of a lower vapor pressure product to be stored or the use of a higher designed pressure vessel in order to prevent the safety valves opening as the result of these temperatures. As an alternative the tanks may be protected by cooling devices such as by spraying, by shading, or other effective means.

(vii) Safety relief valves shall be arranged so that the possibility of tampering will be minimized. If pressure setting or adjustment is external, the relief valves shall be provided with approved means for sealing adjustment.

(viii) Shutoff valves shall not be installed between the safety relief devices and the container, or the equipment or piping to which the safety relief device is connected except that a shutoff valve may be used where the arrangement of this valve is such that full required capacity flow through the safety relief device is always afforded.

(ix) Safety relief valves shall have direct communication with the vapor space of the container at all times.

(x) Each container safety relief valve used with systems covered by paragraphs (d), (e), (g), and (h) of this section, except as provided in paragraph (e)(3)(iii) of this section shall be plainly and permanently marked with the following: "Container Type" of the pressure vessel on which the valve is designed to be installed; the pressure in p.s.i.g. at which the valve is set to discharge; the actual rate of discharge of the valve in cubic feet per minute of air at 60° F. and 14.7 p.s.i.a.; and the manufacturer's name and catalog number, for example: T200-250-4050 AIR—indicating that the valve is suitable for use on a Type 200 container, that it is set to start to discharge at 250 p.s.i.g.; and that its rate of discharge is 4,050 cubic feet per minute of air as determined in subdivision (ii) of this subparagraph.

(xi) Safety relief valve assemblies, including their connections, shall be of sufficient size so as to provide the rate of flow required for the container on which they are installed.

(xii) A hydrostatic relief valve shall be installed between each pair of shutoff valves on liquefied petroleum gas liquid piping so as to relieve into a safe atmosphere. The start-to-discharge pressure setting of such relief valves shall not be in excess of 500 p.s.i.g. The minimum setting on relief valves installed in piping connected to other than DOT containers shall not be lower than 140 percent of the container relief valve setting and in piping connected to DOT containers not lower than 400 p.s.i.g. Such a relief valve should not be installed in the pump discharge piping if the same protection can be provided by installing the relief valve in the suction piping. The start-to-discharge pressure setting of such a relief valve, if installed on the discharge side of a pump, shall be greater than the maximum pressure permitted by the recirculation device in the system.

(xiii) The discharge from any safety relief device shall not terminate in or beneath any building, except relief devices covered by subparagraphs (6)(i)(*a*)-(*e*) of this paragraph or paragraphs (c) (4)(i) or (5) of this section.

(xiv) Container safety relief devices and regulator relief vents shall be located not less than five (5) feet in any direction from air openings into sealed combustion system appliances or mechanical ventilation air intakes.

(11) *Vaporizer and housing.* (i) Indirect fired vaporizers utilizing steam, water, or other heating medium shall be constructed and installed as follows:

(*a*) Vaporizers shall be constructed in accordance with the requirements of subparagraph (3) (i)-(iii) of this paragraph and shall be permanently marked as follows:

(*1*) With the code marking signifying the specifications to which the vaporizer is constructed.

(*2*) With the allowable working pressure and temperature for which the vaporizer is designed.

(*3*) With the sum of the outside surface area and the inside heat exchange surface area expressed in square feet.

(*4*) With the name or symbol of the manufacturer.

(*b*) Vaporizers having an inside diameter of 6 inches or less exempted by the ASME Unfired Pressure Vessel Code, Section VIII of the ASME Boiler and Pressure Vessel Code—1968 shall have a design pressure not less than 250 p.s.i.g. and need not be permanently marked.

(*c*) Heating or cooling coils shall not be installed inside a storage container.

(*d*) Vaporizers may be installed in buildings, rooms, sheds, or lean-tos used exclusively for gas manufacturing or distribution, or in other structures of light, noncombustible construction or equivalent, well ventilated near the floor line and roof.

When vaporizing and/or mixing equipment is located in a structure or building not used exclusively for gas manufacturing or distribution, either attached to or within such a building, such structure or room shall be separated from the remainder of the building by a wall designed to withstand a static pressure of at least 100 pounds per square foot. This wall shall have no openings or pipe or conduit passing through it. Such structure or room shall be provided with adequate ventilation and shall have a roof or at least one exterior wall of lightweight construction.

(*e*) Vaporizers shall have, at or near the discharge, a safety relief valve providing an effective rate of discharge in accordance with subparagraph (10)(iii) of this paragraph, except as provided in paragraph (d)(4)(v)(*a*), of this section.

(*f*) The heating medium lines into and leaving the vaporizer shall be provided with suitable means for preventing the flow of gas into the heat systems in the event of tube rupture in the vaporizer. Vaporizers shall be provided with suitable automatic means to prevent liquid passing through the vaporizers to the gas discharge piping.

(*g*) The device that supplies the necessary heat for producing steam, hot water, or other heating medium may be installed in a building, compartment, room, or lean-to which shall be ventilated near the floorline and roof to the outside. The device location shall be separated from all compartments or rooms containing liquefied petroleum gas vaporizers, pumps, and central gas mixing devices by a wall designed to withstand a static pressure of at least 100 pounds per square foot. This wall shall have no openings or pipes or conduit passing through it. This requirement does not apply to the domestic water heaters which may supply heat for a vaporizer in a domestic system.

(*h*) Gas-fired heating systems supplying heat exclusively for vaporization purposes shall be equipped with automatic safety devices to shut off the flow of gas to main burners, if the pilot light should fail.

(*i*) Vaporizers may be an integral part of a fuel storage container directly connected to the liquid section or gas section or both.

(*j*) Vaporizers shall not be equipped with fusible plugs.

(*k*) Vaporizer houses shall not have unprotected drains to sewers or sump pits.

(ii) Atmospheric vaporizers employing heat from the ground or surrounding air shall be installed as follows:

(*a*) Buried underground, or

(*b*) Located inside the building close to a point at which pipe enters the building provided the capacity of the unit does not exceed 1 quart.

(*c*) Vaporizers of less than 1 quart capacity heated by the ground or surrounding air, need not be equipped with safety relief valves provided that adequate tests demonstrate that the assembly is safe without safety relief valves.

(iii) Direct gas-fired vaporizers shall be constructed, marked, and installed as follows:

(*a*)(*1*) In accordance with the requirements of the American Society of Mechanical Engineers Boiler and Pressure Vessel Code—1968 that are applicable to the maximum working conditions for which the vaporizer is designed.

(*2*) With the name of the manufacturer; rated BTU input to the burner; the area of the heat exchange surface in square feet; the outside surface of the vaporizer in square feet; and the maximum vaporizing capacity in gallons per hour.

(*b*)(*1*) Vaporizers may be connected to the liquid section or the gas section of the storage container, or both; but in any case there shall be at the container a manually operated valve in each connection to permit completely shutting off when desired, of all flow of gas or liquid from container to vaporizer.

(*2*) Vaporizers with capacity not exceeding 35 gallons per hour shall be located at least 5 feet from container shutoff valves. Vaporizers having capacity of more than 35 gallons but not exceeding 100 gallons per hour shall be located at least 10 feet from the container shutoff valves. Vaporizers having a capacity greater than 100 gallons per hour shall be located at least 15 feet from container shutoff valves.

(*c*) Vaporizers may be installed in buildings, rooms, housings, sheds, or lean-tos used exclusively for vaporizing or mixing of liquefied petroleum gas. Vaporizing housing structures shall be of noncombustible construction, well ventilated near the floorline and the highest point of the roof. When vaporizer and/or mixing equipment is located in a structure or room attached to or within a building, such structure or room shall be separated from the remainder of the building by a wall designed to withstand a static pressure of at least 100 pounds per square foot. This wall shall have no openings or pipes or conduit passing through it. Such structure or room shall be provided with adequate ventilation, and shall have a roof or at least one exterior wall of lightweight construction.

(*d*) Vaporizers shall have at or near the discharge, a safety relief valve providing an effective rate of discharge in accordance with subparagraph (10)(iii) of this paragraph. The relief valve shall be so located as not to be subjected to temperatures in excess of 140° F.

(*e*) Vaporizers shall be provided with suitable automatic means to prevent liquid passing from the vaporizer to the gas discharge piping of the vaporizer.

(*f*) Vaporizers shall be provided with means for manually turning off the gas to the main burner and pilot.

(*g*) Vaporizers shall be equipped with automatic safety devices to shut off the flow of gas to main burners if the pilot light should fail. When the flow through the pilot exceeds 2,000 B.t.u. per hour, the pilot also shall be equipped with an automatic safety device to shut off the flow of gas to the pilot should the pilot flame be extinguished.

(*h*) Pressure regulating and pressure reducing equipment if located within 10 feet of a direct fire vaporizer shall be separated from the open flame by a substantially airtight noncombustible partition or partitions.

(*i*) Except as provided in (*c*) of this subdivision, the following minimum distances shall be maintained between direct fired vaporizers and the nearest important building or group of buildings or line of adjoining property which may be built upon:

Ten feet for vaporizers having a capacity of 15 gallons per hour or less vaporizing capacity.

Twenty-five feet for vaporizers having a vaporizing capacity of 16 to 100 gallons per hour.

Fifty feet for vaporizers having a vaporizing capacity exceeding 100 gallons per hour.

(*j*) Direct fired vaporizers shall not raise the product pressure above the design pressure of the vaporizer equipment nor shall they raise the product pressure within the storage container above the pressure shown in the second column of Table H-31.

(*k*) Vaporizers shall not be provided with fusible plugs.

(*l*) Vaporizers shall not have unprotected drains to sewers or sump pits.

(iv) Direct gas-fired tank heaters shall be constructed and installed as follows:

(*a*) Direct gas-fired tank heaters, and tanks to which they are applied, shall only be installed above ground.

(*b*) Tank heaters shall be permanently marked with the name of the manufacturer, the rated B.t.u. input to the burner, and the maximum vaporizing capacity in gallons per hour.

(*c*) Tank heaters may be an integral part of a fuel storage container directly connected to the container liquid section, or vapor section, or both.

(*d*) Tank heaters shall be provided with a means for manually turning off the gas to the main burner and pilot.

(*e*) Tank heaters shall be equipped with an automatic safety device to shut off the flow of gas to main burners, if the pilot light should fail. When flow through pilot exceeds 2,000 B.t.u. per hour, the pilot also shall be equipped with an automatic safety device to shut off the flow of gas to the pilot should the pilot flame be extinguished.

(*f*) Pressure regulating and pressure reducing equipment if located within 10 feet of a direct fired tank heater shall be separated from the open flame by a substantially airtight noncombustible partition.

(*g*) The following minimum distances shall be maintained between a storage tank heated by a direct fired tank heater and the nearest important building or group of buildings or line of adjoining property which may be built upon:

Ten feet for storage containers of less than 500 gallons water capacity.

Twenty-five feet for storage containers of 500 to 1,200 gallons water capacity.

Fifty feet for storage containers of over 1,200 gallons water capacity.

(*h*) No direct fired tank heater shall raise the product pressure within the storage container over 75 percent of the pressure set out in the second column of Table H-31.

(v) The vaporizer section of vaporizer-burners used for dehydrators or dryers shall be located outside of buildings; they shall be constructed and installed as follows:

(*a*) Vaporizer-burners shall have a minimum design pressure of 250 p.s.i.g. with a factor of safety of five.

(*b*) Manually operated positive shutoff valves shall be located at the containers to shut off all flow to the vaporizer-burners.

(*c*) Minimum distances between storage containers and vaporizer-burners shall be as follows:

Water capacity per container (gallons)	*Minimum distances (feet)*
Less than 501	10
501 to 2,000	25
Over 2,000	50

(*d*) The vaporizer section of vaporizer-burners shall be protected by a hydrostatic relief valve. The relief valve shall be located so as not to be subjected to temperatures in excess of 140° F. The start-to-discharge pressure setting shall be such as to protect the components involved, but not less than 250 p.s.i.g. The discharge shall be directed upward and away from component parts of the equipment and away from operating personnel.

(*e*) Vaporizer-burners shall be provided with means for manually turning off the gas to the main burner and pilot.

(*f*) Vaporizer-burners shall be equipped with automatic safety devices to shut off the flow of gas to the main burner and pilot in the event the pilot is extinguished.

(*g*) Pressure regulating and control equipment shall be located or protected so that the temperatures surrounding this equipment shall not exceed 140° F. except that equipment components may be used at higher temperatures if designed to withstand such temperatures.

(*h*) Pressure regulating and control equipment when located downstream of the vaporizer shall be designed to withstand the maximum discharge temperature of the vapor.

(*i*) The vaporizer section of vaporizer-burners shall not be provided with fusible plugs.

(*j*) Vaporizer coils or jackets shall be made of ferrous metal or high temperature alloys.

(*k*) Equipment utilizing vaporizer-burners shall be equipped with automatic shutoff devices upstream and downstream of the vaporizer section connected so as to operate in the event of excessive temperature, flame failure, and, if applicable, insufficient airflow.

(12) *Filling densities.* (i) The "filling density" is defined as the percent ratio of the weight of the gas in a container to the weight of water the container will hold at 60° F. All containers shall be filled according to the filling densities shown in Table H-27.

TABLE H-27—MAXIMUM PERMITTED FILLING DENSITY

Specific gravity at 60° F. (15.6° C.)	Above ground containers: 0 to 1,200 U.S. gals. (1,000 imp. gal., 4,550 liters) total water cap.	Above ground containers: Over 1,200 U.S. gals. (1,000 imp. gal., 4,550 liters) total water cap.	Under ground containers, all capacities
	Percent	*Percent*	*Percent*
0.496-0.503	41	44	45
.504- .510	42	45	46
.511- .519	43	46	47
.520- .527	44	47	48
.528- .536	45	48	49
.537- .544	46	49	50
.545- .552	47	50	51
.553- .560	48	51	52
.561- .568	49	52	53
.569- .576	50	53	54
.577- .584	51	54	55
.585- .592	52	55	56
.593- .600	53	56	57

(ii) Except as provided in subparagraph (iii) of this subparagraph, any container including mobile cargo tanks and portable tank containers regardless of size or construction, shipped under DOT jurisdiction or constructed in accordance with 49 CFR Chapter I Specifications shall be charged according to 49 CFR Chapter I requirements.

(iii) Portable containers not subject to DOT jurisdiction (such as, but not limited to, motor fuel containers on industrial and lift trucks, and farm tractors covered in paragraph (e) of this section, or containers recharged at the installation) may be filled either by weight, or by volume using a fixed length dip tube gaging device.

(13) *LP-Gas in buildings.* (i) Vapor shall be piped into buildings at pressures in excess of 20 p.s.i.g. only if the buildings or separate areas thereof, (*a*) Are constructed in accordance with this section; (*b*) Are used excusively to house equipment for vaporization, pressure reduction, gas mixing, gas manufacturing, or distribution, or to house internal combustion engines, industrial processes, research and experimental laboratories, or equipment and processes using such gas and having similar hazard; (*c*) Buildings, structures, or equipment under construction or undergoing major renovation.

(ii) Liquid may be permitted in buildings as follows:

(*a*) Buildings, or separate areas of buildings, used exclusively to house equipment for vaporization, pressure reduction, gas mixing, gas manufacturing, or distribution, or to house internal combustion engines, industrial processes, research and experimental laboratories, or equipment and processes using such gas and having similar hazard; and when such buildings, or separate areas thereof are constructed in accordance with this section.

(*b*) Buildings, structures, or equipment under construction or undergoing major renovation provided the temporary piping meets the following conditions:

(*1*) Liquid piping inside the building shall conform to the requirements of subparagraph (8) of this paragraph, and shall not exceed three-fourths iron pipe size. Copper tubing with an outside diameter of three-fourths inch or less may be used provided it conforms to Type K of Specifications for Seamless Water Tube, ANSI H23.1-1970 (ASTM B88-69) (see Table H-24). All such piping shall be protected against construction hazards. Liquid piping inside buildings shall be kept to a minimum. Such piping shall be securely fastened to walls or other surfaces so as to provide adequate protection from breakage and so located as to subject the liquid line to lowest ambient temperatures.

(*2*) A shutoff valve shall be installed in each intermediate branch line where it takes off the main line and shall be readily accessible. A shutoff valve shall also be placed at the appliance end of the intermediate branch line. Such shutoff valve shall be upstream of any flexible connector used with the appliance.

(*3*) Suitable excess flow valves shall be installed in the container outlet line supplying liquid LP-Gas to the building. A suitable excess flow valve shall be installed immediately downstream of each shutoff valve. Suitable excess flow valves shall be installed where piping size is reduced and shall be sized for the reduced size piping.

(*4*) Hydrostatic relief valves shall be installed in accordance with subparagraph (10)(xii) of this section.

(*5*) The use of hose to carry liquid between the container and the building or at any point in the liquid line, except at the appliance connector, shall be prohibited.

(*6*) Where flexible connectors are necessary for appliance installation, such connectors shall be as short as practicable and shall comply with subparagraph (8)(ii) or (9) of this paragraph.

(*7*) Release of fuel when any section of piping or appliances is disconnected shall be minimized by either of the following methods:

(*i*) Using an approved automatic quick-closing coupling (a type closing in both directions when coupled in the fuel line), or

(*ii*) Closing the valve nearest to the appliance and allowing the appliance to operate until the fuel in the line is consumed.

(*iii*) Portable containers shall not be taken into buildings except as provided in subparagraph (6)(i) of this paragraph.

(14) *Transfer of liquids.* The employer shall assure that—(i) at least one attendant shall remain close to the transfer connection from the time the connections are first made until they are finally disconnected, during the transfer of the product.

(ii) Containers shall be filled or used only upon authorization of the owner.

(iii) Containers manufactured in accordance with specifications of 49 CFR Part 178 and authorized by 49 CFR Chapter 1 as a "single trip" or "nonrefillable container" shall not be refilled or reused in LP-Gas service.

(iv) Gas or liquid shall not be vented to the atmosphere to assist in transferring contents of one container to another, except as provided in paragraph (e)(5)(iv) of this section and except that this shall not preclude the use of listed pump utilizing LP-Gas in the vapor phase as a source of energy and venting such gas to the atmosphere at a rate not to exceed that from a No. 31 drill size opening and provided that such venting and liquid transfer shall be located not less than 50 feet from the nearest important building.

(v) Filling of fuel containers for industrial trucks or motor vehicles from industrial bulk storage containers shall be performed not less than 10 feet from the nearest important masonry-walled building or not less than 25 feet from the nearest important building or other construction and, in any event, not less than 25 feet from any building opening.

(vi) Filling of portable containers, containers mounted on skids, fuel containers on farm tractors, or similar applications, from storage containers used in domestic or commercial service, shall be performed not less than 50 feet from the nearest important building.

(vii) The filling connection and the vent from the liquid level gages in containers, filled at point of installation, shall not be less than 10 feet in any direction from air openings into sealed combustion system appliances or mechanical ventilation air intakes.

(viii) Fuel supply containers shall be gaged and charged only in the open air or in buildings especially provided for that purpose.

(ix) The maximum vapor pressure of the product at 100° F. which may be transferred into a container shall be in accordance with paragraphs (d)(2) and (e)(3) of this section. (For DOT containers use DOT requirements.)

(x) Marketers and users shall exercise precaution to assure that only those gases for which the system is designed, examined, and listed, are employed in its operation, particularly with regard to pressures.

(xi) Pumps or compressors shall be designed for use with LP-Gas. When compressors are used they shall normally take suction from the vapor space of the container being filled and discharge to the vapor space of the container being emptied.

(xii) Pumping systems, when equipped with a positive displacement pump, shall include a recirculating device which shall limit the differential pressure on the pump under normal operating conditions to the maximum differential pressure rating of the pump. The discharge of the pumping system shall be protected so that pressure does not exceed 350 p.s.i.g. If a recirculation system discharges into the supply tank and contains a manual shutoff valve, an adequate secondary safety recirculation system shall be incorporated which shall have no means of rendering it inoperative. Manual shutoff valves in recirculation systems shall be kept open except during an emergency or when repairs are being made to the system.

(xiii) When necessary, unloading piping or hoses shall be provided with suitable bleeder valves for relieving pressure before disconnection.

(xiv) Agricultural air moving equipment, including crop dryers, shall be shut down when supply containers are being filled unless the air intakes and sources of ignition on the equipment are located 50 feet or more from the container.

(xv) Agricultural equipment employing open flames or equipment with integral containers, such as flame cultivators, weed burners, and, in addition, tractors, shall be shut down during refueling.

(15) *Tank car or transport truck loading or unloading points and operations.* (i) The track of tank car siding shall be relatively level.

(ii) A "Tank Car Connected" sign, as covered by DOT rules, shall be installed at the active end or ends of the siding while the tank car is connected.

(iii) While cars are on sidetrack for loading or unloading, the wheels at both ends shall be blocked on the rails.

(iv) The employer shall insure that an employee is in attendance at all times while the tank car, cars, or trucks are being loaded or unloaded.

(v) A backflow check valve, excess-flow valve, or a shutoff valve with means of remote closing, to protect against uncontrolled discharge of LP-Gas from storage tank piping shall be installed close to the point where the liquid piping and hose or swing joint pipe is connected.

(vi) Except as provided in subdivision (vii) of this subparagraph, when the size (diameter) of the loading or unloading hoses and/or piping is reduced below the size of the tank car or transport truck loading or unloading connections, the adaptors to which lines are attached shall be equipped with either a backflow check valve, a properly sized excess flow valve, or shutoff valve with means of remote closing, to protect against uncontrolled discharge from the tank car or transport truck.

(vii) The requirement of subdivision (vi) of this subparagraph shall not apply if the tank car or transport is equipped with a quick-closing internal valve that can be remotely closed.

(viii) The tank car or transport truck loading or unloading point shall be located with due consideration to the following:

(*a*) Proximity to railroads and highway traffic.

(*b*) The distance of such unloading or loading point from adjacent property.

(*c*) With respect to buildings on installer's property.

(*d*) Nature of occupancy.

(*e*) Topography.

(*f*) Type of construction of buildings.

(*g*) Number of tank cars or transport trucks that may be safely loaded or unloaded at one time.

(*h*) Frequency of loading or unloading.

(ix) Where practical, the distance of the unloading or loading point shall conform to the distances in subparagraph (6)(ii) of this paragraph.

(16) *Instructions.* Personnel performing installation, removal, operation, and maintenance work shall be properly trained in such function.

(17) *Electrical equipment and other sources of ignition.* (i) Electrical equipment and wiring shall be of a type specified by and shall be installed in accordance with Subpart S of this part, for ordinary locations except that fixed electrical equipment in classified areas shall comply with subparagraph (18) of this paragraph.

(ii) Open flames or other sources of ignition shall not be permitted in vaporizer rooms (except those housing direct-fired vaporizers), pumphouses, container charging rooms or other similar locations. Direct-fired vaporizers shall not be permitted in pumphouses or container charging rooms.

(iii) Liquefied petroleum gas storage containers do not require lightning protection.

(iv) Since liquefied petroleum gas is contained in a closed system of piping and equipment, the system need not be electrically conductive or electrically bonded for protection against static electricity.

(v) Open flames (except as provided for in subparagraph (11) of this paragraph), cutting or welding, portable electric tools, and extension lights capable of igniting LP-Gas, shall not be permitted within classified areas specified in Table H-28 unless the LP-Gas facilities have been freed of all liquid and vapor, or special precautions observed under carefully controlled conditions.

(18) *Fixed electrical equipment in classified areas.* Fixed electrical equipment and wiring installed within classified areas specified in Table H-28 shall comply with Table H-28 and shall be installed in accordance with Subpart S of this part. This provision does not apply to fixed electrical equipment at residential or commercial installations of LP-Gas systems or to systems covered by paragraph (e) or (g) of this section.

TABLE H-28

Part	Location	Extent of classified area [1]	Equipment shall be suitable for National Electrical Code, Class 1, Group D [2]
A	Storage containers other than DOT cylinders.	Within 15 feet in all directions from connections, except connections otherwise covered in Table H-28.	Division 2.
B	Tank vehicle and tank car loading and unloading. [3]	Within 5 feet in all directions from connections regularly made or disconnected for product transfer.	Division 1.
		Beyond 5 feet but within 15 feet in all directions from a point where connections are regularly made or disconnected and within the cylindrical volume between the horizontal equator of the sphere and grade. (See Figure H-1).	Division 2.
C	Gage vent openings other than those on DOT cylinders.	Within 5 feet in all directions from point of discharge.	Division 1.
		Beyond 5 feet but within 15 feet in all directions from point of discharge.	Division 2.
D	Relief valve discharge other than those on DOT cylinders.	Within direct path of discharge.	Division 1. *Note*— Fixed electrical equipment should preferably not be installed.
		Within 5 feet in all directions from point of discharge.	Division 1.
		Beyond 5 feet but within 15 feet in all directions from point of discharge except within the direct path of discharge.	Division 2.
E	Pumps, compressors, gas-air mixers and vaporizers other than direct fired.		
	Indoors without ventilation.	Entire room and any adjacent room not separated by a gastight partition.	Division 1.
		Within 15 feet of the exterior side of any exterior wall or roof that is not vaportight or within 15 feet of any exterior opening.	Division 2.
	Indoors with adequate ventilation. [4]	Entire room and any adjacent room not separated by a gastight partition.	Division 2.
	Outdoors in open air at or abovegrade.	Within 15 feet in all directions from this equipment and within the cylindrical volume between the horizontal equator of the sphere and grade. See Figure H-1.	Division 2.
F	Service Station Dispensing Units.	Entire space within dispenser enclosure, and 18 inches horizontally from enclosure exterior up to an elevation 4 ft. above dispenser base. Entire pit or open space beneath dispenser.	Division 1.
		Up to 18 inches abovegrade within 20 ft. horizontally from any edge of enclosure.	Division 2.
		NOTE: For pits within this area, see Part F of this table.	
G	Pits or trenches containing or located beneath LP-Gas valves, pumps, compressors, regulators, and similar equipment.		
	Without mechanical ventilation.	Entire pit or trench	Division 1.
		Entire room and any adjacent room not separated by a gastight partition.	Division 2.
		Within 15 feet in all directions from pit or trench when located outdoors.	Division 2.
	With adequate mechanical ventilation.	Entire pit or trench	Division 2.
		Entire room and any adjacent room not separated by a gastight partition.	Division 2.
		Within 15 feet in all directions from pit or trench when located outdoors.	Division 2.

TABLE H-28—Continued

Part	Location	Extent of classified area[1]	Equipment shall be suitable for National Electrical Code, Class 1, Group D[2]
H	Special buildings or rooms for storage of portable containers.	Entire room	Division 2.
I	Pipelines and connections containing operational bleeds, drips, vents or drains.	Within 5 ft. in all directions from point of discharge.	Division 1.
		Beyond 5 ft. from point of discharge, same as Part E of this table.	
J	Container filling:		
	Indoors without ventilation.	Entire room	Division 1.
	Indoors with adequate ventilation.[4]	Within 5 feet in all directions from connections regularly made or disconnected for product transfer.	Division 1.
		Beyond 5 feet and entire room	Division 2.
	Outdoors in open air	Within 5 feet in all directions from connections regularly made or disconnected for product transfer.	Division 1.
		Beyond 5 feet but within 15 feet in all directions from a point where connections are regularly made or disconnected and within the cylindrical volume between the horizontal equator of the sphere and grade. (See Figure H-1)	Division 2.

[1] The classified area shall not extend beyond an unpierced wall, roof, or solid vaportight partition.

[2] See Subpart S of this part.

[3] When classifying extent of hazardous area, consideration shall be given to possible variations in the spotting of tank cars and tank vehicles at the unloading points and the effect these variations of actual spotting point may have on the point of connection.

[4] Ventilation, either natural or mechanical, is considered adequate when the concentration of the gas in a gas-air mixture does not exceed 25 percent of the lower flammable limit under normal operating conditions.

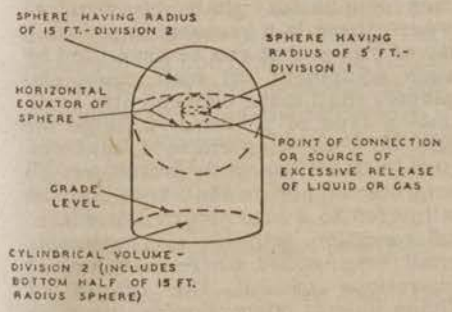
SPHERE HAVING RADIUS OF 15 FT.-DIVISION 2
SPHERE HAVING RADIUS OF 5 FT.-DIVISION 1
HORIZONTAL EQUATOR OF SPHERE
POINT OF CONNECTION OR SOURCE OF EXCESSIVE RELEASE OF LIQUID OR GAS
GRADE LEVEL
CYLINDRICAL VOLUME - DIVISION 2 (INCLUDES BOTTOM HALF OF 15 FT. RADIUS SPHERE)

Figure H-1

(19) *Liquid-level gaging device.* (i) Each container manufactured after December 31, 1965, and filled on a volumetric basis shall be equipped with a fixed liquid-level gage to indicate the maximum permitted filling level as provided in subdivision (v) of this subparagraph. Each container manufactured after December 31, 1969, shall have permanently attached to the container adjacent to the fixed level gage a marking showing the percentage full that will be shown by that gage. When a variable liquid-level gage is also provided, the fixed liquid-level gage will also serve as a means for checking the variable gage. These gages shall be used in charging containers as required in subparagraph (12) of this section.

(ii) All variable gaging devices shall be arranged so that the maximum liquid level for butane, for a 50-50 mixture of butane and propane, and for propane, to which the container may be charged is readily determinable. The markings indicating the various liquid levels from empty to full shall be on the system nameplate or gaging device or part may be on the system nameplate and part on the gaging device. Dials of magnetic or rotary gages shall show whether they are for cylindrical or spherical containers and whether for aboveground or underground service. The dials of gages intended for use only on aboveground containers of over 1,200 gallons water capacity shall be so marked.

(iii) Gaging devices that require bleeding of the product to the atmosphere, such as the rotary tube, fixed tube, and slip tube, shall be designed so that the bleed valve maximum opening is not larger than a No. 54 drill size, unless provided with excess flow valve.

(iv) Gaging devices shall have a design working pressure of at least 250 p.s.i.g.

(v) Length of tube or position of fixed liquid-level gage shall be designed to indicate the maximum level to which the container may be filled for the product contained. This level shall be based on the volume of the product at 40° F. at its maximum permitted filling density for aboveground containers and at 50° F. for underground containers. The employer shall calculate the filling point for which the fixed liquid level gage shall be designed according to the method in this subdivision.

(*a*) It is impossible to set out in a table the length of a fixed dip tube for various capacity tanks because of the varying tank diameters and lengths and because the tank may be installed either in a vertical or horizontal position. Knowing the maximum permitted filling volume in gallons, however, the length of the fixed tube can be determined by the use of a strapping table obtained from the container manufacturer. The length of the fixed tube should be such that when its lower end touches the surface of the liquid in the container, the contents of the container will be the maximum permitted volume as determined by the following formula:

(*b*) Formula for determining maximum volume of liquefied petroleum gas for which a fixed length of dip tube shall be set:

[(Water capacity (gals.) of container* × filling density**) ÷ (Specific gravity of LP-Gas* × volume correction factor† × 100)] = Maximum volume of LP-Gas

*Measured at 60° F.

**From subparagraph (12) of this paragraph "Filling Densities."

†For aboveground containers the liquid temperature is assumed to be 40° F. and for underground containers the liquid temperature is assumed to be 50° F. To correct the liquid volumes at these temperatures to 60° F. the following factors shall be used:

TABLE H-29—VOLUME CORRECTION FACTORS

Specific gravity	Aboveground	Underground
0.500	1.033	1.017
.510	1.031	1.016
.520	1.029	1.015
.530	1.028	1.014
.540	1.026	1.013
.550	1.025	1.013
.560	1.024	1.012
.570	1.023	1.011
.580	1.021	1.011
.590	1.020	1.010

(*c*) The maximum volume of LP-Gas which can be placed in a container when determining the length of the dip tube expressed as a percentage of total water content of the container is calculated by the following formula.

(*d*) The maximum weight of LP-Gas which may be placed in a container *for determining the length of a fixed dip tube* is determined by multiplying the maximum volume of liquefied petroleum gas obtained by the formula in (*b*) of this subdivision by the pounds of liquefied petroleum gas in a gallon at 40° F. for abovegound and at 50° F. for underground containers. For example, typical pounds per gallon are specified below:

Example: Assume a 100-gallon total water capacity tank for aboveground storage of propane having a specific gravity of 0.510 of 60° F.

[(100 (gals.)×42 (filling density from subparagraph (12) of this paragraph))÷(0.510×1.031 (correction factor from Table H-29)×100)]=(4200÷52.6)

(4200÷52.6)=79.8 gallons propane, the maximum amount permitted to be placed in a 100-gallon total water capacity aboveground container equipped with a fixed dip tube.

[(Maximum volume of LP-Gas (from formula in subdivision *(b)* of this subdivision) ×100)÷Total water content of container in gallons]=Maximum percent of LP-Gas

	Aboveground, pounds per gallon	Underground, pounds per gallon
Propane	4.37	4.31
N Butane	4.97	4.92

(vi) Fixed liquid-level gages used on containers other than DOT containers shall be stamped on the exterior of the gage with the letters "DT" followed by the vertical distance (expressed in inches and carried out to one decimal place) from the top of container to the end of the dip tube or to the centerline of the gage when it is located at the maximum permitted filling level. For portable containers that may be filled in the horizontal and/or vertical position the letters "DT" shall be followed by "V" with the vertical distance from the top of the container to the end of the dip tube for vertical filling and with "H" followed by the proper distance for horizontal filling. For DOT containers the stamping shall be placed both on the exterior of the gage and on the container. On aboveground or cargo containers where the gages are positioned at specific levels, the marking may be specified in percent of total tank contents and the marking shall be stamped on the container.

(vii) Gage glasses of the columnar type shall be restricted to charging plants where the fuel is withdrawn in the liquid phase only. They shall be equipped with valves having metallic handwheels, with excess flow valves, and with extra-heavy glass adequately protected with a metal housing applied by the gage manufacturer. They shall be shielded against the direct rays of the sun. Gage glasses of the columnar type are prohibited on tank trucks, and on motor fuel tanks, and on containers used in domestic, commercial, and industrial installations.

(viii) Gaging devices of the float, or equivalent type which do not require flow for their operation and having connections extending to a point outside the container do not have to be equipped with excess flow valves provided the piping and fittings are adequately designed to withstand the container pressure and are properly protected against physical damage and breakage.

(20) *Requirements for appliances.* (i) Except as provided in subdivision (ii) of this subparagraph, new commercial and industrial gas consuming appliances shall be approved.

(ii) Any appliance that was originally manufactured for operation with a gaseous fuel other than LP-Gas and is in good condition may be used with LP-Gas only after it is properly converted, adapted, and tested for performance with LP-Gas before the appliance is placed in use.

(iii) Unattended heaters used inside buildings for the purpose of animal or poultry production or care shall be equipped with an approved automatic device designed to shut off the flow of gas to the main burners, and pilot if used, in the event of flame extinguishment.

(iv) All commercial, industrial, and agricultural appliances or equipment shall be installed in accordance with the requirements of this section and in accordance with the following:

(a) Domestic and commercial appliances—NFPA 54-1969, Standard for the Installation of Gas Appliances and Gas Piping.

(b) Industrial appliances—NFPA 54A-1969, Standard for the Installation of Gas Piping and Gas Equipment on Industrial Premises and Certain Other Premises.

(c) Standard for the Installation and Use of Stationary Combustion Engines and Gas Turbines—NFPA 37-1970.

(d) Standard for the Installation of Equipment for the Removal of Smoke and Grease-Laden Vapors from Commercial Cooking Equipment, NFPA 96-1970.

HEALTH STANDARDS

Sec.
1910.6 Incorporation by reference.
1910.100 Standards organizations.
1910.133 Eye and face protection.
1910.135 Occupational head protection.
1910.136 Occupational foot protection.
1910.141(d) Washing facilities.
1910.141(e) Change rooms.
1910.145(d)(4) Caution signs.
1910.184(d) Inspections (slings).

§ 1910.6 Incorporation by reference.

(a) The standards of agencies of the U.S. Government and organizations which are not agencies of the U.S. Government which are legally incorporated by reference in this part, have the same force and effect as other standards in this part.

(b) Copies of the standards which are incorporated by reference may be examined at the national office of the Occupational Safety and Health Administration, U.S. Department of Labor, Washington, D.C. 20210, or at any of its regional offices. Copies of such private standards may be obtained from the issuing organizations. Their names and addresses are listed in the pertinent subparts of this part.

(c) Any changes in the standards incorporated by reference in this part and an official historic file of such changes are available for inspection at the national office of the Occupational Safety and Health Administration, U.S. Department of Labor, Washington, D.C. 202110.

§ 1910.100 Standards organizations.

Specific standards of the following organizations have been referenced in this subpart. Copies of the standards may be obtained from the issuing organization.

American Conference of Governmental Industrial Hygienists, 1014 Broadway, Cincinnati, OH 45202.
American National Standards Institute, 1430 Broadway, New York, NY 10018.
National Fire Protection Association, 60 Batterymarch Street, Boston, MA 02110.

§ 1910.133 Eye and face protection.

(a) *General.* (1) Protective eye and face equipment shall be required where there is a reasonable probability of injury that can be prevented by such equipment. In such cases, employers shall make conveniently available a type of protector suitable for the work to be performed, and employees shall use such protectors. No unprotected person shall knowingly be subjected to a hazardous environmental condition. Suitable eye protectors shall be provided where machines or operations present the hazard of flying objects, glare, liquids, injurious radiation, or a combination of these hazards.

(2) Protectors shall meet the following minimum requirements:

(i) They shall provide adequate protection against the particular hazards for which they are designed.

(ii) They shall be reasonably comfortable when worn under the designated conditions.

(iii) They shall fit snugly and shall not unduly interfere with the movements of the wearer.

(iv) They shall be durable.

(v) They shall be capable of being disinfected.

(vi) They shall be easily cleanable.

(vii) Protectors should be kept clean and in good repair.

(3) Persons whose vision requires the use of corrective lenses in spectacles, and who are required by this standard to wear eye protection, shall wear goggles or spectacles of one of the following types:

(i) Spectacles whose protective lenses provide optical correction.

(ii) Goggles that can be worn over corrective spectacles without disturbing the adjustment of the spectacles.

(iii) Goggles that incorporate corrective lenses mounted behind the protective lenses.

(4) Every protector shall be distinctly marked to facilitate identification only of the manufacturer.

(5) When limitations or precautions are indicated by the manufacturer, they shall be transmitted to the user and care taken to see that such limitations and precautions are strictly observed.

(6) Design, construction, testing, and use of devices for eye and face protection shall be in accordance with American National Standard for Occupational and Educational Eye and Face Protection, Z87.1-1968.

§ 1910.135 Occupational head protection.

Helmets for the protection of heads of occupational workers from impact and penetration from falling and flying objects and from limited electric shock and burn shall meet the requirements and specifications established in American National Standard Safety Requirements for Industrial Head Protection, Z89.1-1969.

§ 1910.136 Occupational foot protection.

Safety-toe footwear for employees shall meet the requirements and specifications in American National Standard for Men's Safety-Toe Footwear, Z41.1-1967.

§ 1910.141 Sanitation.

* * * * *

(d) *Washing facilities*—(1) *General.* Washing facilities shall be maintained in a sanitary condition.

(2) *Lavatories.* (i) Lavatories shall be made available in all places of employment in accordance with the requirements for lavatories as set forth in table J-2 of this section. In a multiple-use lavatory, 24 lineal inches of wash sink or 20 inches of a circular basin, when provided with water outlets for each space, shall be considered equivalent to one lavatory. The requirements of this subdivision do not apply to mobile crews or to normally unattended work locations if employees working at these locations have transportation readily available to nearby washing facilities which meet the other requirements of this paragraph.

TABLE J-2

Type of employment	Number of employees	Minimum number of lavatories
Nonindustrial—office buildings, public buildings, and similar establishments.	1-15	1.
	16-35	2.
	36-60	3.
	61-90	4.
	91-125	5.
	Over 125	1 additional fixture for each additional 45 employees.
Industrial—factories, warehouse, loft buildings, and similar estabishments.	1—100	1 fixture for each 10 employees.
	Over 100	1 fixture for each additional 15 employees.

(ii) Each lavatory shall be provided with hot and cold running water, or tepid running water.

(iii) Hand soap or similar cleansing agents shall be provided.

(iv) Individual hand towels or sections thereof, of cloth or paper, warm air blowers or clean individual sections of continuous cloth toweling, convenient to the lavatories, shall be provided.

(v) Receptacles shall be provided for disposal of used towels.

(vi) Warm air blowers shall provide air at not less than 90° F. and shall have means to automatically prevent the discharge of air exceeding 140° F.

(vii) Electrical components of warm air blowers shall meet the requirements of Subpart S of this part.

(3) *Showers.* (i) Whenever showers are required by a particular standard, the showers shall be provided in accordance with subdivisions (ii) through (v) of the subparagraph.

(ii) One shower shall be provided for each 10 employees of each sex, or numerical fraction thereof, who are required to shower during the same shift.

(iii) Body soap or other appropriate cleansing agents convenient to the showers shall be provided as specified in paragraph (d)(2)(iii) of this section.

(iv) Showers shall be provided with hot and cold water feeding a common discharge line.

(v) Employees who use showers shall be provided with individual clean towels.

(e) *Change rooms.* Whenever employees are required by a particular standard to wear protective clothing because of the possibility of contamination with toxic materials, change rooms equipped with storage facilities for street clothes and separate storage facilities for the protective clothing shall be provided.

* * * * *

§ 1910.145 Specifications for accident prevention signs and tags.

* * * * *

(d) *Sign design and colors* * * *

(4) *Caution signs.* (i) Standard color of the background shall be yellow; and the panel, black with yellow letters. Any letters used against the yellow background shall be black. The colors shall be those of opaque glossy samples as specified in Table 1 of American National Standard Z53.1-1967.

§ 1910.184 Slings.

* * * * *

(d) *Inspections.* Each day before being used, the sling and all fastenings and attachments shall be inspected for damage or defects by a competent person designated by the employer. Additional inspections shall be performed during sling use, where service conditions warrant. Damaged or defective slings shall be immediately removed from service.

* * * * *

Supplement II—Threshold Limit Values of Airborne Contaminants for 1970

This is the table of "Threshold Limit Values of Airborne Contaminants for 1970" that is referenced in 29 CFR 1926.55(a). It contains administrative changes in footnotes, and it has been modified to reflect subsequent OSHA rulemakings (health standards issued pursuant to section 6(b) of the Act).

Substance	ppm (Note 1)	mg/M³ (Note 2)
Abate		15
Acetaldehyde	200	360
Acetic acid	10	25
Acetic anhydride	5	20
Acetone	1,000	2,400
Acetonitrile	40	70
Acetylene (note 3)		
Acetylene dichloride, see 1, 2-Dichloroethylene		
Acetylene tetrabromide	1	14
Acrolein	0.1	0.25
Acrylamide-Skin		0.3
Acrylonitrile—see § 1910.1045		
Aldrin-Skin		0.25
Allyl alcohol-Skin	2	5
Allyl chloride	1	3
C Allyl glycidyl ether (AGE)	10	45
Allyl propyl disulfide	2	12
Alundum (Al_2O_3) (Note 4)		
2-Aminoethanol, see Ethanolamine		
2-Aminopyridine	0.5	2
Ammonia	50	35
Ammonium sulfamate (Ammate)		15
n-Amyl acetate	100	525
sec-Amyl acetate	125	650

Substance	ppm (Note 1)	mg/M^3 (Note 2)
Aniline-Skin	5	19
Anisidine (o,p-isomers)-Skin		0.5
Antimony & compounds (as Sb)		0.5
ANTU (alpha naphthyl thiourea)		0.3
Argon (Note 3)		
Arsenic, and inorganic arsenic compounds except Arsine.—see § 1910.1018		
Arsenic compounds, organic		0.5
Arsine	0.05	0.2
Azinphos-methyl-Skin		0.2
Barium (soluble compounds)		0.5
Benzene—see § 1910.1028		
Benzidine-Skin (Note 5)		
p-Benzoquinone, see Quinone		
Benzoyl peroxide		5
Benzyl chloride	1	5
Beryllium		0.002
Biphenyl, see Diphenyl		
Bisphenol A, see Diglycidyl ether		
Boron oxide		15
Boron tribromide	1	10
C Boron trifluoride	1	3
Bromine	0.1	0.7
Bromine pentafluroide	0.1	0.7
Bromoform-Skin	0.5	5
Butadiene (1, 3-butadiene)	1,000	2,200
Butanethiol, see Butyl mercaptan		
2-Butanone	200	590
2-Butoxy ethanol (Butyl Cellosolve)-Skin	50	240
Butyl acetate (n-butyl acetate)	150	710
sec-Butyl acetate	200	950
tert-Butyl acetate	200	950
Butyl alcohol	100	300
sec-Butyl alcohol	150	450
tert-Butyl alcohol	100	300
C Butylamine-Skin	5	15
C tert-Butyl chromate (as CrO_3)-Skin		0.1
n-Butyl glycidyl ether (BGE)	50	270
Butyl mercaptan	0.5	1.5
p-tert-Butyltoluene	10	60
Cadmium (Metal dust and soluble salts)		0.2
C Cadmium oxide fume (as Cd)		0.1
Calcium carbonate (Note 4)		
Calcium arsenate—See § 1910.1018		
Calcium oxide		5
Camphor (Synthetic)	2	
Carbaryl (Sevin)		5
Carbon black		3.5
Carbon dioxide	5,000	9,000
Carbon disulfide-Skin	20	60
Carbon monoxide	50	55
Carbon tetrachloride-Skin	10	65
Cellulose (paper fiber)		
Chlordan-Skin		0.5
Chlorinated camphene-Skin		0.5
Chlorinated diphenyl oxide		0.5
Chlorine	1	3
Chlorine dioxide	0.1	0.3
C Chlorine trifluoride	0.1	0.4
C Chloroacetaldehyde	1	3
oo-Chloroacetophenone (phenacylchloride)	0.05	0.3
Chlorobenzene (monochlorobenzene)	75	350
o-Chlorobenzylidene malononitrile (OCBM)	0.05	0.4
Chlorobromomethane	200	1,050
2-Chloro-1, 3-butadiene, see Chloroprene		
Chlorodiphenyl (42% Chlorine)-Skin		1
Chlorodiphenyl (54% Chlorine)-Skin		0.5
1-Chloro, 2, 3-epoxypropane, see Epichlorhydrin		
2-Chloroethanol, see Ethylene chlorohydrin		
Chloroethylene—See § 1910.1017		
C Chloroform (trichloromethane)	50	240
1-Chloro-1-nitropropane	20	100
Chloropicrin	0.1	0.7
Chloroprene (2-chloro-1, 3-butadiene) Skin	25	90
Chromic acid and chromates (as CrO_3)		0.1
Chromium, sol, chromic, chromous salts as Cr		0.5
Metal & insol. salts		1
Coal tar pitch volatiles (benzene soluble fraction) anthracene, BaP phenanthrene, acridene, chrysene, pyrene) (Note 6)		0.2
Cobalt, metal fume & dust		0.1
Copper fume		0.1
Dusts and Mists		1
Corundum (Note 4)		
Cotton dust, raw—See § 1910.1043 and (Note 7)		1
Crag herbicide		
Cresol (all isomers)-Skin	5	22
Crotonaldehyde	2	6
Cumene-Skin	50	245
Cyanide (as CN)-Skin		5
Cyanogen	10	
Cyclohexane	300	1,050
Cyclohexanol	50	200
Cyclohexanone	50	200
Cyclohexene	300	1,015
Cyclopentadiene	75	200
2, 4-D		10
DDT-Skin		1
DDVP, see Dichlorvos		
Decaborane-Skin	0.05	0.3
Eemoton-Skin		0.1
diacetone alcohol (4-dydroxy-4-methyl-2-pentanone)	50	240
1, 2-Diaminoethane, see Ethylene-diamine		
Diazomethane	0.2	0.4
Diborane	0.1	0.1
C 1, 2-Dibromoethane (ethylene dibromode)-Skin	25	190
Dibutyl phosphate	1	5
Dubutylphthalate		5
C Dichloroacteylene	0.1	0.4
C o-Dichlorobenzene	50	300
p-Dichlorobenzene	75	450
Dichlorodifluoromethane	1,000	4,950
1,3-Dichloro-5, 5-dimethyl hydantoin		0.2
1, 1-Dichloroethane	100	400
1, 2-Dichloroethane	50	200
1, 2-Dichloroethane	200	790
C Dichloroethyl ether-Skin	15	90
Dichloromethane, see Methylene-chloride		
Dichloromonofluoromethane	1,000	4,200
C 1, 1-dichloro-1-nitroethane	10	60
1, 2-Dichloropropane, see Propylenedichloride		
Dichlorotetrafluoroethane	1,000	7,000
Dichlorvos (DDVP)-Skin		1
Dieldrin-Skin		0.25
Diethylamine	25	75
Diethylamino ethanol-Skin	10	50
C Diethylene triamine-Skin	10	42
Diethylether, see Ethyl ether		
Difluorodibromomethane	100	860
C Diglycidyl ether (DGE)	0.5	2.8
Dihydroxybenzene, see Hydroquinone		
Diisobutyl ketone	50	290
Diisopropylamine-Skin	5	20
Dimethoxymethane, see Methylal		
Dimethyl acetamide-Skin	10	35
Dimethylamine	10	18
Dimethylaminobenzene, see Xylidene		
Dimethylaniline (N-dimethylaniline)-Skin	5	25
Dimethylbenzene, see Xylene		
Dimethyl 1, 2-dibromo-2, 2-dichloroethyl phosphate, (Dibrom)		3
Dimethylformamide-Skin	10	30
2, 6-Dimethylheptanone, see Diisobutyl ketone		
1, 1-Dimethylhydrazine-Skin	0.5	1
Dimethylphthalate		5
Dimethylsulfate-Skin	1	5
Dinitrobenzene (all isomers)-Skin		1
Dinitro-o-cresol-Skin		0.2
Dinitrotoluene-Skin		1.5
Dioxane (Diethylene dioxide-Skin	100	360
Diphenyl	0.2	1
Diphenyl amine		10
Diphenylmethane diisocyanate (see Methylene bisphenyl isocyanate MDI)		
Dipropylene glycol methyl ether-Skin	100	600
Di-sec, octyl phthalate (Di-2-ethylhexylphathalate)		5
Emery Note 4)		
Endosulfan (Thiodan®)-Skin		0.1
Endrin-Skin		0.1
Epichlorhydrin-Skin	5	19
EPN-Skin		0.5
1, 2-Epoxypropane, see Propylene-oxide		
2, 3-Epoxy-1-propanol, see Glycidol		
Ethane (Note 3)		
Ethanethiol, see Ethylmercaptan		
Ethanolamine	3	6
2-Ethoxyethanol-Skin	200	740
2-Ethoxyethylacetate (Cellosolve acetate)-Skin	100	540
Ethyl acetate	400	1,400
Ethyl acrylate-Skin	25	100
Ethyl alcohol (ethanol)	1,000	1,900
Ethylamine	10	18
Ethyl sec-amyl ketone (5-methyl-3-heptanone)	25	130
Ethyl benzene	100	435
Ethyl bromide	200	890
Ethyl butyl ketone (3-Heptanone)	50	230
Ethyl chloride	1,000	2,600
Ethyl ether	400	1,200
Ethyl formate	100	300
Ethyl mercaptan	0.5	1
Ethyl silicate	100	850
Ethylene (Note 3)		
Ethylene chlorohydrin-Skin	5	16
Ethylenediamine	10	25
Ethylene dibromide, see 1, 2- Dibromoethane		
Ethylene dichloride, see 1, 2- Dichloroethane		
C Ethylene glycol dinitrate and/or Nitroglycerine-Skin (Note 8)	0.2	
Ethylene glycol monomethyl ether acetate, see Methyl cellosolve acetate		
Ethylene imine-Skin	0.5	1
Ethylene oxide	50	90
Ethylidine chloride, see 1, 1-Dichloroethane		
N-Ethylmorpholine-Skin	20	94
Ferbam		15
Ferrovanadium dust		1

Substance	ppm (Note 1)	mg/M^3 (Note 2)
Fibrous glass (Note 5)		
Fluoride (as F)		2.5
Fluorine	0.1	0.2
Fluorotrichloromethane	1,000	5,600
C Formaldehyde	5	6
Formic acid	5	9
Furfural-Skin	5	20
Furfuryl alcohol	50	200
Gasoline (Note 9)		
Glycerine mist (Note 4)		
Glycidol (2, 3-Epoxy-1-propanol)	50	150
Glycol monoethyl ether, see 2-Ethoxyethanol		
Graphite, (Synthetic) (Note 4)		
Guthion,® see Azinphosmethyl		
Gypsum (Note 4)		
Hafnium		0.5
Helium (Note 3)		
Heptachlor-Skin		0.5
Heptane (n-heptane)	500	2,000
Hexachloroethane-Skin	1	10
Hexachloronaphthalene-Skin		0.2
Hexane (n-hexane)	500	1,800
2-Hexanone	100	410
Hexone (Methyl isobutyl ketone)	100	410
sec-Hexyl acetate	50	300
Hydrazine-Skin	1	1.3
Hydrogen (Note 3)		
Hydrogen bromide	3	10
C Hydrogen chloride	5	7
Hydrogen cyanide-Skin	10	11
Hydrogen fluoride	3	2
Hydrogen peroxide	1	1.4
Hydrogen selenide	0.05	0.2
Hydrogen sulfide	10	15
Hydroquinone		2
Indene	10	45
Indium and compounds, as In		0.1
C Iodine	0.1	1
Iron oxide fume		10
Iron salts, soluble, as Fe		1
Isoamyl acetate	100	525
Isoamyl alcohol	100	360
Isobuty acetate	150	700
Isobuty alcohol	100	300
Isophorone	25	140
Isopropyl acetate	250	950
Isopropyl alcohol	400	980
Isopropylamine	5	12
Isopropylether	500	2,100
Isopropyl glycidyl ether (IGE)	50	240
Kaolin (Note 4)		
Ketene	0.5	0.9
Lead—See § 1910.1025		
Lead arsenate—See § 1910.1018		
Limestone (Note 4)		
Lindane-Skin		0.5
Lithium hydride		0.025
L.P.G. (Liquified petroleum gas)	1,000	1,800
Magnesite (Note 4)		
Magnesium oxide fume		15
Malathion-Skin		15
Maleic anhydride	0.25	1
C Manganese and compounds, as M$_{n}$		5
Marble (Note 4)		
Mercury5Skin		0.1
Mercury (organic compounds)-Skin		0.01
Mesityl oxide	25	100
Methane (Note 3)		
Methanethiol, see Methyl mercaptan		
Methoxychlor		15
2-Methoxyethanol, see Methyl cellosolve		
Methyl acetate	200	610
Methyl acetylene (propyne)	1,000	1,650
Methyl acetylene-propadiene mixture (MAPP)	1,000	1,800
Methyl acrylate-Skin	10	35
Methylal (dimethoxymethane)	1,000	3,100
Methyl alcohol (methanol).	200	260
Methylamine	10	12
Methyl amyl alcohol, see Methyl isobutyl carbinol		
Methyl isoamyl ketone	100	475
Methyl (n-amyl) ketone (2-Heptanone)	100	465
C Methyl bromide-Skin	20	80
Methyl butyl ketone, see 2-Hexanone		
Methyl cellosolve-Skin	25	80
Methyl cellosolve acetate-Skin	25	120
C Methyl chloride	100	210
Methyl chloroform	350	1,900
Methylcyclohexane	500	2,000
Methylcyclohexanol	100	470
o-Methylcyclohezanone-Skin	100	460
Methyl ethyl ketone(MEK), see 2-Butanone		
Methyl formate	100	250
Methyl iodide-Skin	5	28
Methyl isobutyl carbinol-Skin	25	100
Methyl isobutyl ketone, seeHexone		
Methyl isocyanate - Skin	0.02	0.05
Methy mercaptan	0.5	1
Methyl methacrylat	100	410
Methyl propyl ketone,see 2-Pentanone		
C Methyl silicate	5	30
C Methyl styrene	100	480
C Methylene bisphenyl isocyanate (MDI)	0.02	0.2
Methylene chloride (dichloromethane)	500	1,740
Molybdenum (soluble compounds)		5
(insoluble compounds)		15
Monomethyl aniline-Skin	2	9
C Monomethyl hydrazine-Skin	0.2	0.35
Morpholine-Skin	20	70
Naphtha (coal tar)	100	400
Naphthalene	10	50
beta-Naphthylamine (Note 5)		
Neon (Note 3)		
Nickel carbonyl	0.001	0.007
Nickel, metal and soluble cmpds, as Ni		1
Nicotine-Skin		0.5
Nitric acid	2	5
Nitric oxide	25	30
p-Nitroaniline-Skin	1	6
Nitrobenzene-Skin	1	5
p-Nitrochlorobenzene-Skin		1
Nitroethane	100	310
Nitrogen (Note 3)		
C Nitrogen dioxide	5	9
Nitrogen trifluoride	10	29
Nitroglycerin-Skin	0.2	2
Nitromethane	100	250
1-Nitropropane	25	90
2-Nitropropane	25	90
N-Nitrosodimethylamine (dimethylnitrosamine)-Skin (Note 5)		
Nitrotoluene-Skin	5	30
Nitrotrichloromethane, see Chloropicrin		
Nitrous oxide (Note 3)		
Octachloronaphthalene-Skin		0.1
Octane	400	1,900
Oil mist, particulate (Note 10)		
Oil mist, vapor (Note 11)		
Osmium tetroxide		0.002
Oxalic acid		1
Oxygen difluoride	0.05	0.1
Ozone	0.1	0.2
Paraquat-Skin		0.5
Parathion-Skin		0.1
Pentaborane	0.005	0.01
Pentachloronaphthalene-Skin		0.5
Pentachlorophenol-Skin		0.5
Pentaerythritol (Note 4)		
Pentane	500	1,500
2-Pentanone	200	700
Perchloroethylene	100	670
Perchloromethyl mercaptan	0.1	0.8
Perchloryl fluoride	3	13.5
Petroleum distillates (naphtha) (Note 11)		
Phenol-Skin	5	19
p-Phenylene diamine-Skin		0.1
Phenyl ether (vapor)	1	7
Phenyl ether-Biphenyl mixture (vapor)	1	7
Phenylethylene, see Styrene		
Phenyl glycidyl ether (PGE)	10	60
Phenylhydrazine-Skin	5	22
Phosdrin (Mevinphos®)-Skin		0.1
Phosgene (carbonyl chloride)	0.1	0.4
Phosphine	0.3	0.4
Phosphoric acid		1
Phosphorus (yellow)		0.1
Phosphorus pentachloride		1
Phosphorus pentasulfide		1
Phosphorus trichloride	0.5	3
Phthalic anhydride	2	12
Picric acid-Skin		0.1
Pival ®(2-Pivalyl-1, 3-indandione)		0.1
Plaster of Paris (Note 4)		
Platinum (Soluble Salts) as Pt		0.002
Polytetrafluoroethylene decomposition products (Note 12)		
Propane (Note 3)		
beta-Propiolactone (Note 5)		
Propargyl alcohol-Skin	1	
n-Propyl acetate	200	840
Propyl alcohol	200	500
n-Propyl nitrate	25	110
Propylene dichloride	75	350
Propylene imine-Skin	2	5
Propylene oxide	100	240
Propyne, see Methylacetylene		
Pyrethrum		5
Pyridine	5	15
Quinone	0.1	0.4
RDX-Skin		1.5
Rhodium, Metal fume and dusts, as Rh		0.1
Soluble salts		0.001
Ronnel		10
Rotenone (commercial)		5
Rouge (Note 4)		
Selenium compounds (as Se)		0.2
Selenium hexafluoride	0.05	0.4
Silicon carbide (Note 4)		
Silver, metal and soluble compounds		0.01
Sodium fluoroacetate (1080)-Skin		0.05
Sodium hydroxide		2
Stibine	0.1	0.5
Starch (Note 4)		
Stoddard solvent	200	1,150
Strychnine		0.15
C Styrene monomer (phenylethylene)	100	420
Sucrose (Note 4)		
Sulfur dioxide	5	13
Sulfur hexafluoride	1,000	6,000
Sulfuric acid		1
Sulfur monochloride	1	6
Sulfur pentafluoride	0.025	0.25
Sulfuryl fluoride	5	20
Systox, see Demeton®		
Tantalum		5
TEDP-Skin		0.2
Teflon® decomposition products (Note 12)		

	Substance	ppm (Note 1)	mg/M^3 (Note 2)
	Tellurium		0.1
	Tellurium hexafluoride	0.02	0.2
	TEPP-Skin		0.05
C	Terphenyls	1	9
	1, 1, 1, 2-Tetrachloro-2, 2-difluoroethane	500	4,170
	1, 1, 2, 2-Tetrachloro-1, 2-difluoroethane	500	4,170
	1, 1, 2, 2-Tetrachloroethane-Skin	5	35
	Tetrachloroethylene, see Perchloroethylene		
	Tetrachloromethane, see Carbon tetrachloride		
	Tetrachloronaphthalene-Skin		2
	Tetraethyl lead (as Pb)-Skin (Note 13)		
	Tetrahydrofuran	200	590
	Tetrametyl lead (as Pb)-Skin (Note 13)		
	Tetramethyl succinonitrile-Skin	0.5	3
	Tetranitromethane	1	8
	Tetryl (2, 4, 6-trinitrophenyl-methylnitramine)-Skin		1.5
	Thallium (soluble compounds)-Skin as Tl		0.1
	Thiram		5
	Tin (inorganic cmpds, except SnH_4 and SnO_2).		2
	Tin (organic cmpds)		0.1
	Tin oxide (Note 4)		
	Titanium dioxide (Note 4)		
	Toluene (toluol)	200	750
C	Toluene-2, 4-diisocyanate	0.02	0.14
	o-Toluidine-Skin	5	22
	Toxaphene, see Chlorinated camphene		
	Tributyl phosphate		5
	1, 1, 1-Trichloroethane, see Methyl chloroform		
	1, 1, 2-Trichloroethane-Skin	10	45
	Trichloroethylene	100	535
	Trichloromethane, see Chloroform		
	Trichloronaphthalene-Skin		5
	1, 2, 3-Trichloropropane	50	300
	1, 1, 2-Trichloro 1, 2, 2-trifluoroethane	1,000	7,600
	Triethylamine	25	100
	Trifluoromonobromomethane	1,000	6,100
	Trimethyl benzene	25	120
	2, 4, 6-Trinitrophenol, see Picric acid		
	2, 4, 6-Trinitrophenyl-methylnitramine, see Tetryl		
	Trinitrotoluene-Skin		1.5
	Triorthocresyl phosphate		0.1
	Triphenyl phosphate		3
	Tungsten & compounds, as W		
	Soluble		1
	Insoluble		5
	Turpentine	100	560
	Uranium (natural) sol. & insol. compounds as U		0.2
C	Vanadium (V_2O_5 dust)		0.5
	(V_2O_5 fume)		0.1
	Vinyl benzene, see Styrene		
	Vinyl chloride—See § 1910.1017		
	Vinylcyanide, see Acrylonitrile		
	Vinyl toluene	100	480
	Warfarin		0.1
	Xylene (xylol)	100	435
	Xylidine-Skin	5	25
	Yttrium		1
	Zinc chloride fume		1
	Zinc oxide fume		5
	Zirconium compounds (as Zr)		5

MINERAL DUSTS

Substance	m.p.p.c.f. (Note 14)
SILICA	
Crystalline	
Quartz, Threshold Limit calculated from the formula	$\frac{250}{\%SiO_2+5}$ (Note 15)
Cristobalite " " "	
Amorphous, including natural diatomaceous earth	20
SILICATES (less than 1% crystalline silica)	
Asbestos—See § 1910.1001	
Mica	20
Portland Cement	50
Soapstone	20
Talc (non-asbestiform)	20
Talc (fibrous), use asbestos limit	
Tremolite, see asbestos	
Graphite (natural)	15
"Inert" or Nuisance Particulates	50 (or 15 mg/M^3 whichever is the smaller) of total dust <1% SiO_2

Conversion factors

mppcf × 35.3 = million particles per cubic meter
= particles per c.c.

TABLE NOTES

(1) Parts of vapor or gas per million parts of contaminated air by volume at 25°C and 760 mm. Hg pressure.

(2) Approximate milligrams of particulate per cubic meter of air.

(3) Simple asphxyiant—See 1970 Threshold Limit Value pamphlet, Preface and Appendix E.

(4) "Nuisance" or "Inert" dust—See Mineral Dusts table and 1970 Threshold Limit Value pamphlet, Preface and Appendix D.

(5) Carcinogen—See Threshold Limit Value pamphlet, Appendix A^1.

(6) Not applicable to coke oven emissions; see § 1910.1029.

(7) The standard of 1 mg/m^3 applies in cotton yarn manufacturing until compliance with § 1910.1043 is achieved.

(8) An atmospheric concentration of not more than 0.02 ppm, or personal protection may be necessary to avoid headache.

(9) Substance has variable composition—see Threshold Limit Value pamphlet Appendix A^3 to determine Threshold Limit Value.

(10) As sampled by method that does not collect vapor.

(11) According to analytically determined composition. See 1970 Threshold Limit Value pamphlet Appendix A^3 to determine Threshold Limit Value.

(12) See 1970 Threshold Limit Value pamphlet Appendix A^2.

(13) For control of general room air, biologic monitoring is essential for personnel control.

(14) Millions of particles per cubic foot of air, based on impinger samples counted by light-field technics.

(15) The percentage of crystalline silica in the formula is the amount determined from airborne samples, except in those instances in which other methods have been shown to be applicable.

Supplement III—List of Standards (Other Federal Agency, ANSI, NEC, NFPA, etc.) Incorporated by Reference in Part 1926 and Those Part 1910 Standards Identified as Applicable to Construction Work

PRIVATE STANDARDS SETTING ORGANIZATIONS

ACGIH AMERICAN CONFERENCE OF GOVERNMENTAL INDUSTRIAL HYGIENISTS

1970 THRESHOLD LIMIT VALUES OF AIRBORNE CONTAMINANTS

ANSI AMERICAN NATIONAL STANDARDS INSTITUTE, INC.

A10.3-1970 Explosive-Actuated Fastening Tools, Safety Requirements for
A10.4-1963 Workmen's Hoists, Safety Requirements for
A10.5-1969 Material Hoists, Safety Requirements for
A10.9-1970 Concrete Construction and Masonry Work, Safety Requirements for
A11.1-1965 (R1970) Industrial Lighting, Practices for (IES RP7-1965)
A14.1-1968 Portable Wood Ladders, Safety Code for
A14.2-1956 Portable Metal Ladders, Safety Code for
A14.3-1956 Fixed Ladders, Safety Code for
A17.1-1965 Elevators, Dumbwaiters and Moving Walks, Safety Code for
A17.1a-1967 Supplement to A17.1-1965
A17.1b-1968 Supplement to A17.1-1965 and A17.1a-1967
A17.1c-1969 Supplement to A17.1-1965, A17.1a-1967, and A17.1b-1968
A17.1d-1970 Supplement to A17.1-1965, A17.1a-1967, and A17.1b-1968 and A17.1c-1969
A17.2-1960 Elevators, Practice for the Inspection of (Inspector's Manual)
A17.2a-1965 Addenda to A17.2-1960
A17.2b-1967 Supplement to A17.2-1960
A92.2-1969 Vehicle Mounted Elevating and Rotating Work Platforms
A120.1-1970 Power-Operated Platforms Used for Exterior Building Maintenance, Safety Code for
B7.1-1970 Use, Care and Protection of abrasive Wheels, Safety Code for the
B15.1-1953 (R1958) Mechanical Power-Transmission Apparatus, Safety Code for
B20.1-1957 Conveyors, Cableways, and Related Equipment, Safety Code for
B30.2.0-1967 Overhead and Gantry Cranes, Safety Code for (Partial Revision of B30.2-1943)
B30.5-1968 Crawler, Locomotive and Truck Cranes, Safety Code for (Partial Revision of B30.2-1943)
B30.6-1969 Derricks, Safety Code for (Partial Revision of B30.2-1943)
B56.1-1969 Powered Industrial Trucks, Safety Standards for (ISO R1074)
D6.1-1971 Manual on Uniform Traffic Control Devices for Streets and Highways
J6.6-1971 Rubber Insulating Gloves
J6.7-1935 (R1971) Rubber Matting for Use Around Electrical Apparatus
J6.4-1971 Rubber Insulating Blankets
J6.2-1950 (R1971) Rubber Insulating Hoods
J6.1-1950 (R1971) Rubber Insulating Line Hose
J6.5-1971 Rubber Insulating Sleeves
01.1-1961 Woodworking Machinery, Safety Code for

Z35.1-1968 Accident Prevention Signs, Specifications for
Z35.2-1968 Accident Prevention Tags, Specifications for
Z49.1-1967 Welding and Cutting, Safety in
Z87.1-1968 Occupational and Educational Eye and Face Protection, Practice for (Partial Revision of Z2.1-1959)
Z89.1-1969 Industrial Head Protection, Safety Requirements for
Z89.2-1971 Industrial Protective Helmets for Electrical Workers, Class B, Safety Requirements for

AMERICAN RED CROSS (INSTRUCTION IN FIRST AID)

ASAE AMERICAN SOCIETY OF AGRICULTURAL ENGINEERS

ASAE R313 SOIL CONE PENETROMETER, 1971

ASME AMERICAN SOCIETY OF MECHANICAL ENGINEERS

AMERICAN WELDING SOCIETY

AWS B3.0-41
AWS D8.4-61
AWS D10.9-69
AWS D2.0-69
Power Boilers (Section I), 1968
Pressure Vessels (Section VIII), 1968

ASTM AMERICAN SOCIETY FOR TESTING AND MATERIALS

A370-68 Mechanical Testing of Steel Products, Standard Methods and Definitions for
B117-64 (50-hour test)
D56-69 Flash Point by the Tag Closed Tester, Standard Method of Test for
D93-69 Flash Point by the Pensky-Martens Closed Tester, Standard Method of Test for
D323-58 (R-68) Vapor Pressure of Petroleum Products (Reid Method), Standard Method of Test for

FACTORY MUTUAL ENGINEERING CORP.

IME INSTITUTE OF MAKERS OF EXPLOSIVES

Publication No. 2, June 5, 1964, American Table of Distances for Storage of Explosives
Publication No. 20, March 1968, Radio Frequency Energy—A Potential Hazard in the Use of Electric Blasting Caps

NFPA NATIONAL FIRE PROTECTION ASSOCIATION

NOTE: The National Electrical Code may be found in both ANSI and NFPA standards. Although, in this listing, reference is made to the standard under both ANSI and NFPA, only one source need be maintained.

NFPA 100-1970 Recommended Good Practice for the Maintenance and Use of Portable Fire Extinguishers
NFPA 13-1969 Installation of Sprinkler Systems, Standards for the
NFPA 30-1969 Flammable and Combustible Liquid Code, Chapters III and IV
NFPA 70-1971 National Electrical Code (ANSI C1-1971)*
NFPA 80-1970 Fire Doors and Windows, Standards for
NFPA 251-1969 Fire Tests of Building Construction and Materials, Standard Methods of
NFPA 385-1966 Recommended Regulatory Standards for Tank Vehicles and Flammable and Combustible Liquids

PCSA POWER CRANE AND SHOVEL ASSOCIATION

Standard No. 1-1968 Mobile Power Crane and Excavator Standards
Standard No. 2-1968 Mobile Hydraulic Crane Standards
Standard No. 3-1968 Mobile Hydraulic Excavator Standards

SAE SOCIETY OF AUTOMOTIVE ENGINEERS

SAE Handbook—1971
SAE Handbook—1970, pages 1088-1103 (Nomenclature and Descriptions)
SAE J166-1971 Minimum Performance Criteria for Brake Systems for Off-Highway Trucks and Wagons
SAE J167-1971 Protective Frame With Overhead Protection—Test Procedures and Performance Requirements
SAE J168 (July 1970) Protective Enclosures—Test Procedures and Performance Requirements
SAE J236-1971 Minimum Performance Criteria for Brake Systems for Rubber-Tired, Self-Propelled Graders
SAE J237-1971 Minimum Performance Criteria for Brake Systems for Off-Highway, Rubber-Tired, Front End Loaders and Dozers
SAE J319b-1971 Minimum Performance Criteria for Brake Systems for Off-Highway, Rubber-Tired, Self-Propelled Scrapers
SAE J320a-1971 Minimum Performance Criteria for Roll-Over Protective Structures for Rubber-Tired, Self-Propelled Scrapers
SAE J321a-1970 Fenders for Pneumatic-Tired Earthmoving Haulage Equipment
SAE J333a-1970 Operation Protection for Wheel-Type Agricultural and Industrial Tractors
SAE J334a-1970 Protective Frame Tests Procedures and Performance Requirements
SAE J386-1969 Seat Belts for Construction Equipment
SAE J394-1971 Minimum Performance Criteria for Roll-Over Protective Structure for Rubber-Tired Front End Loaders and Rubber-Tired Dozers
SAE J395-1971 Minimum Performance Criteria for roll-Over Protective Structure Crawler Tractors and Crawler-Type Loaders
SAE J396-1971 Minimum Performance Criteria for Roll-Over Protective Structure for Motor Graders
SAE J397-1969 Critical Zone-Characteristics and Dimensions for Operators of Construction and Industrial Machinery
SAE J743a-1964 Tractor Mounted Side Boom
SAE J959-1966 Lifting Crane, Wire-Rope Strength Factors

UNDERWRITERS LABORATORIES, INC.

FEDERAL AGENCIES

ATOMIC ENERGY COMMISSION (NOW DEPARTMENT OF ENERGY)

10 CFR Part 20, Protection Against Radiation, Standards for Bureau of Mines (Department of Interior) (now Mine Safety & Health Administration, Department of Labor)
30 CFR Part 32, Mobile Diesel Power Equipment for Non-Coal Mines, Schedule 24—March 23, 1965

BUREAU OF RECLAMATION (DEPARTMENT OF INTERIOR)

Safety and Health Regulations for Construction, Part II (September 1971)

GENERAL SERVICES ADMINISTRATION

QQ-P-416 Federal Specification, Plating, Cadmium (Electrodeposited)

INTERNAL REVENUE SERVICE (DEPARTMENT OF THE TREASURY)

20 CFR Part 181, Commerce in Explosives

NATIONAL BUREAU OF STANDARDS (DEPARTMENT OF COMMERCE)

PS 1-66 American Plywood Association, 1966
PS 20-70 American Softwood Lumber Association, 1970

OCCUPATIOAL SAFETY AND HEALTH ADMINISTRATION (DEPARTMENT OF LABOR)

29 CFR Part 1915 Safety & Health regulations for Ship Repairing
29 CFR Part 1916 Safety & Health regulations for Shipbuilding
29 CFR Part 1918 Safety & Health regulations for Longshoring

TRANSPORTATION, DEPARTMENT OF

49 CFR Part 171-179 Highways and Railroads
49 CFR Part 180 Pipelines
49 CFR Part 192 Gas Pipelines
49 CFR Part 390-397 Motor Carriers
49 CFR Part 571 Motor Vehicle Safety Standards
46 CFR Part 146-148 Water Carriers
14 CFR Part 103 Air Transportation

U.S. COAST GUARD

U.S. ARMY CORPS OF ENGINEERS

EM-385-1-1 (March 1967) General Safety Requirements

OTHER GOVERNMENTAL AGENCIES

State of California: Construction Safety Orders
Department of Industrial Relations; Division 5, Labor Code, Section 6312, State of California

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Supplement IV—Addresses and Telephone Numbers (Where Appropriate) of Federal Agencies, Private Organizations, and Other Sources of Standards Referenced in OSHA Standards Applicable to Construction Work

STANDARDS ORGANIZATIONS

ACGIH American Conference Governmental Industrial Hygienists, 2205 South Road, Cincinnati, Ohio 45238, Telephone: 513-941-6332.

ANSI American National Standards Institute, Inc., 1430 Broadway, New York, N.Y. 10018, Telephone: 212-354-3300.

ASAE American Society of Agricultural Engineers, 2950 Niles Avenue, P.O. Box 410, St. Joseph, Mich. 49085, Telephone: 616-429-0300.

ASME American Society of Mechanical Engineers, United Engineering Center, 345 East 47th Street, New York, N.Y. 10017, Telephone: 212-644-7722.

ASTM American Society for Testing and Materials, 1916 Race Street, Philadelphia, Pa. 19103, Telephone: 215-299-5400.

IME Institute of Makers of Explosives, 420 Lexington Avenue, New York, N.Y. 10017, Telephone: 212-986-6920.

NFPA National Fire Protection Association, 470 Atlantic Avenue, Boston, Mass. 02110, Telephone: 617-482-8755.

State of California, Departments of Industrial Relations; Division 5, Labor Code, Section 6312, State of California, 455 Golden Gate, San Francisco, Calif. 94102, Telephone: 415-557-2037.

The American National Red Cross, 17 Street, between D and E Streets NW., Washington, D.C. 20006, Telephone: 202-737-8300.

APA American Plywood Association, Room 203, 4121 Chatelain Road, Annandale, Va. 22003, Telephone: 703-750-3993.

AWS American Welding Society, 2501 Northwest 7th Street, Miami, Fla. 33125, Telephone: 305-642-7090.

FM Factory Mutual Engineering Research Corp., 1151 Boston Providence Highway, Norwood, Mass. 02062, Telephone: 617-762-4300.

PCSA Power Crane and Shovel Association, Suite 1700, Marine Plaza, 111 East Wisconsin Avenue, Milwaukee, Wis. 53202, Telephone: 414-272-0943.

SAE Society of Automotive Engineers, Inc., 400 Commonwealth Drive, Warrendale, Pa. 15096, Telephone: 412-776-4841.

UL Underwriters' Laboratories, Inc., 207 East Ohio Street, Chicago, Ill. 60611, Telephone: 312-642-6969.

FEDERAL AGENCIES

AEC Atomic Energy Commission (now defunct). Functions absorbed in Department of Energy, 20 Massachusetts Avenue NW., Washington, D.C. 20545, Telephone: 202-252-5000 and Nuclear Regulatory Commission, Washington, D.C. 20555, Telephone: 202-492-7000.

BOM Bureau of Mines, Department of the Interior, 2401 E Street NW., Washington, D.C. 20241, Telephone: 202-634-1001. (Functions absorbed by the U.S. Department of Labor, Mine Safety and Health Administration.)

BuRec Bureau of Reclamation, Department of the Interior, C Street between 18th and 19th Streets NW., Washington, D.C. 20240, Telephone: 202-343-4662.

COE U.S. Army Corps of Engineers, Department of the Army, Office of the Chief of Engineers, Washington, D.C. 20314, Telephone: 202-693-6456.

DOT Department of Transportation, 400 Seventh Street SW., Washington, D.C. 20590, Telephone: 202-426-4000.

FAA Federal Aviation Administration, Department of Transportation, 800 Independence Avenue SW., Washington, D.C. 20591, Telephone: 202-426-4000.

GSA General Services Administration, 18th and F Streets NW., Washington, D.C. 20405, Telephone: 202-472-1082.

IRS Internal Revenue Service, Department of the Treasury, 15th Street and Pennsylvania Avenue NW., Washington, D.C. 20220, Telephone: 202-566-2000.

MSHA U.S. Department of Labor, Mine Safety and Health Administration, 4015 Wilson Boulevard, Room 516, Arlington, Va. 22203, Telephone: 703-235-8647.

NIOSH National Institute for Occupational Safety and Health, 5600 Fishers Lane, Rockville, Md. 20857, Telephone: 301-443-1646.

OSHA Occupational Safety and Health Administration, Department of Labor, 200 Constitution Avenue NW., Washington, D.C. 20210, Telephone: 202-523-8165.

USCG U.S. Coast Guard, Department of Transportation, 400 Seventh Street SW., Washington, D.C. 20590, Telephone: 202-426-4000.

**Any referenced documents which have been updated and the specific referenced standard is not currently available from the source may be reviewed and copied at all OSHA Regional and Area Offices.

[FR Doc. 79-4608 Filed 2-8-79; 8:45 am]

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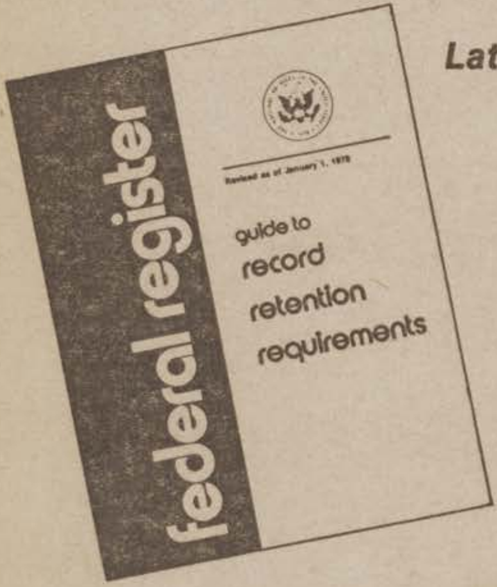

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